Causes and Consquences of Victimisation: Associations between Social Anxiety, Self-Esteem, Friendship Quality and Gender.

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Causes and Consquences of Victimisation: Associations between Social Anxiety, Self-Esteem, Friendship Quality and Gender.

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Declaration

This work is original and has not been submitted in relation to any other degree or qualification.

Signed:

Date:

Acknowledgments

I would like to thank my supervisor Mike Boulton for his assistance in this piece of research. I would also like to thank Rachel Kirkham, Hannah Simpson, Fern Beth Prichard, Justine Santos and Megan Burns for their continued support throughout this project.

University of Chester

Department of Psychology

Research Module Meeting Log 2016/2017

NAME: _____

SUPERVISOR: _____

Date	Discussion Topics	Action Agreed
1st March 2017	As a group, we discussed our ideas on what we wanted our project to be based on. Due to all our ideas being very similar, we decided to do a group project surrounding victimisation/bullying and social relationships in children (10-16). It was also decided that we would use questionnaires to collect data.	Think about specific constructs that we wish to measure and think about contacting schools.
8th March 2017	Created a list of possible constructs relating to traditional and online bullying that we wanted to measure. Discussed measures and agreed on a select few so we kept the overall questionnaire a suitable length.	Find scales that have already been developed for the constructs we wish to measure in the questionnaire.
15th March 2017	Shared the measures we had found as a group and selected the ones we wanted to include. We also created a group account to access to Bristol Online Surveys.	Upload or scales for the questionnaire onto Bristol Online Surveys, begin ethics form and literature review.
22nd March 2017	Group meeting to discuss our application for ethical approval and assigned sections of the form for each of us to complete.	Complete sections that were assigned for the ethics form and also our own individual sections. Also continue with literature review and start contacting schools for data collection.
5th April 2017	Reviewed ethical approval application form and discussed minor amendments before we submitted.	Submit application for ethical approval and continue with our literature review.

		test in so we can start data collection.
24th May 2017	Ethical approval now obtained, data collection can begin.	Begin data collection.
21 st June 2017	Arranged group meeting for when data collection has been completed by all group members. Agreed on date for when first draft should be completed by.	Continue data collection in school and start the full write up.
1 July 2017	Group meeting to discuss data analysis and what tests to use, how to create individual research question(s) and dissertation write-up guidance.	Prepare full draft of dissertation for around the 1 st September.
September 2017	A one to one meeting to discuss first draft and ways to improve.	Make amendments to draft ready for final submission.

SIGNED

STUDENT  DATE: 11.9.17

SUPERVISOR M Bowles DATE: 11.9.17

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Abstract

Bulling in schools is a worldwide issue and its consequences have been found to be detrimental to young people's lives (Anderson et al, 2015). To provide a further insight into victimisation, the current study specifically looked at social anxiety, self-esteem and friendship quality as possible consequences and risk factors for being a victim of bullying. To accomplish this, 654 participants consisting of 327 females and 281 males from 6 schools across the U.K and Gibraltar engaged in an online questionnaire. It was concluded that not only does victimisation contribute to levels of social anxiety and low self-esteem, but also that social anxiety, low self-esteem and friendship quality predicts victimisation. As a result, demonstrating that these variables are both consequences and risk factors of victimisation and suggests a possible "cycle" involved. Gender differences in victimisation were also explored. Although no significant gender difference was found for overall victimisation, there were clear differences in the various subtypes of bullying. Specifically, that males were more likely to suffer from physical bullying whereas females were more at risk of indirect and cyberbullying. A practical implication of the results concluded in this investigation is the need for intervention strategies that aim to target the victim's well-being, such as anxiety levels and self-esteem. As a result, this will in turn help to weaken the victimisation cycle.

Introduction

Bullying has been defined as a particular form of aggression whereby one or numerous children intend to cause harm or distress to another child repeatedly, who is perceived to be inferior and incapable of defending themselves (Glew, Rivara & Feudtner, 2000). Bullying has been found to manifest in the form of multiple behaviours such as name calling, physical abuse and excluding another child from activities (Beale, 2001), these behaviours are known as traditional bullying. More recently however the predominance of bullying others online, known as cyberbullying, has increased dramatically through the use of social media (Vollink et al., 2013) and smart phones (Smith et al., 2008). Both traditional and cyberbullies often coincide, with offline bullies also becoming online bullies (Smith, 2011b). The occurrence of the different forms of bullying have been found to shift during the transition from childhood to adolescence (Bjorkqvist et al., 1992). Specifically, it has been revealed that physical bullying decreases with development and the frequency of verbal bullying increases from early childhood to adolescence (Owens, 1996).

Investigations have discovered that being a victim of bullying is expected to persist for substantial lengths of time (Sharp et al., 2000). For instance, in a longitudinal study Scholte et al. (2007) concluded that 43% of children aged 11 reported they were still victims of bullying 4 years on. Although bullying has been found to endure for long periods of time, overall, the prevalence of bullying has been found to decline with age (Smith & Sharp, 1994). Along with this notion, Salmivalli et al. (1998) reported a decline in being a victim of bullying between the ages of 12-13 and 14-15.

In primary schools, it has been revealed that between 20% and 30% of infants are victims of bullying behaviour (Smith et al., 1999). This finding has also been demonstrated in both developed and developing countries (Eslea et al., 2003). Furthermore, it has been estimated that approximately 100-600 million adolescents may have been affected by bullying worldwide (United Nations Population Fund, 1999). Thus, there is a growing body of

literature that demonstrates the scale of the issue. As a consequence, this gives us a rational to explore victimisation in the current investigation.

There has been an abundance of research to also suggest that there are salient risk factors of being a victim of bullying (Craig et al, 2001; Fisher et al., 1998; Volk et al., 2006). Bullying occurs due to a disproportion in power between the bully and the victim, whereby the victim is seen to have less power in comparison to the bully. As a result, this gives the bully a motive to select an individual that is seen to be weak and powerless (Smith & Sharp, 1994; Olweus, 1993). Moreover, bullying does not arise when there is an equal level of power between the individuals, this is due to the fact that if the status of power was equal the act would not have the same impact (Rigby, 2003). Therefore, it is only when the power between the individuals is unequal the act of continuous aggression causes the victim to feel helpless.

This weaker power status exerted by victims of bullying has been characterised by the children exhibiting what are defined as internalising behaviours. Some internalising behaviours have been found to be depression, social anxiety and lack of social skills (Kochenderfer-Ladd & Wardrop, 2001; Schwartz et al., 1993). As well as being seen to be psychologically weaker than the tormenter, the victim is also typically physically weaker (Olweus, 1978). As a consequence, individuals with these characteristics are less likely to defend themselves and puts them at risk of being victimised.

Bullying in childhood and adolescence is most likely to occur in schools (Smith & Brian, 2000; Pepler et al., 1994). As a result, the school environment has also been found to be a risk factor of victimisation, due to the significant amount of time children spend there (Volk et al., 2006). In fact, it has been found to be the most predominant type of violence in schools (Batsche, 1997), with 15-20% of children becoming a victim of bullying during their time there (Batsche & Knoff, 1994). In an observational study, Craig, Pepler and Atlas (2000) investigated the differences in types and occurrence of bullying in a school setting. It was revealed that bullying was more likely to occur in the playground as appose to the

classroom. Furthermore, that the nature of the bullying was influenced by the surroundings of the school, with direct bullying occurring more frequently in the playground and indirect in the classroom. However, having a teacher present diminished the existence of bullying. Thus, demonstrating the important influence a school and its surroundings within the school has on the likelihood of becoming a victim of bullying. Therefore, previous research in this area regarding the prevalence of bulling in schools gives us a rational to conduct our research in a school environment. In the following sections, the researcher will discuss associations between victimisation and social anxiety, self-esteem and friendship quality. Additionally, gender differences in victimisation will also be explored.

Victimisation and Social Anxiety

Social anxiety has been noted in the literature as a risk factor for victimisation and has been defined as a fear experienced by an individual when they feel they will fail to make a good impression on other people (La Greca & Lopez, 1998). In a longitudinal study of 390 high school students, Acquah et al. (2016) investigated the role of social anxiety in peer victimisation. The researchers concluded there was a significant association between the two. Moreover, that if a child appeared to show signs of social anxiety this put them at risk of victimisation. Specifically, Acquah et al. (2016) revealed that reports of anxiousness during the adolescents first school semester of the year predicted a further increase in victimisation in the second semester. Therefore, clearly demonstrating the risk of victimisation posed by social anxiety.

This finding has also been true for cyberbullying. Navarro et al. (2012) investigated the role social anxiety plays as a predictor of cyber-victimisation. In the study of 1127 primary school children it was concluded that social anxiety, a lack of social skills, a lack of friends and a difficulty to communicate increased the chances of an individual being a victim of cyber bullying. As a result, this demonstrates that social anxiety is not only a risk factor for traditional, but also for cyberbullying.

However, it is difficult to untangle the relationship between victimisation and psychological health. It is unclear whether it is issues in mental health that puts people at risk of being victimised, or if being victimised proceeds mental health issues. As a result, Fekkes at al. (2006) aimed to investigate which came first using 1118 children from the Netherlands, by looking at a diverse range of psychosocial and psychosomatic symptoms such as anxiety and depression. The researchers concluded that being victimised increased the risk of developing an issue in their psychosocial or psychosomatic health when compared to children who were not a victim of bullying. Furthermore, Fekkes at al. (2006) also found that those children who reported symptoms of depression and anxiety had an increased risk of being new targets for victimisation. Therefore, demonstrating that not only does displaying signs of psychological distress increase the chances of being bullied, but it in turn leads an individual to develop psychosomatic and psychosocial problems. The researchers concluded this may be due to the fact that being victimised may harm children's efforts to cope with their mental health issues.

Similarly, Siegel et al. (2009) also studied the bidirectional relationship of social anxiety and victimisation. The researchers concluded there was a strong relationship between peer victimisation and social anxiety. In particular, that being a victim of bullying was both a predictor and also a consequence of the manifestation of social anxiety. As a result, this again demonstrates the damaging impact social anxiety has on an adolescence life.

In a study of short and long-term associations between both traditional and cyberbullying and social anxiety were examined by Pabian and Vandebosch (2016). They concluded that in the short term social anxiety contributed to victimisation both traditionally and online. The researchers also aimed to investigate if there was a bidirectional relationship between the two, however they failed to find any supportive evidence for such relationship. Longitudinally, Pabian and Vanderbosch (2016) concluded that only traditionally bullying was

associated with elevated levels of social anxiety. As a result, this research suggests that the relationship between victimisation and social anxiety is complex.

Mulder and van Aken (2014) investigated to what extent the role of personality traits impacts social anxiety and the risk of victimisation in children. They revealed that those children who were socially anxious, but also defined themselves as an extrovert, had a reduced risk of being victimised when compared to socially anxious children who were introverts. Therefore, demonstrating how personality traits can protect a child from victimisation, regardless of the fact if the child was socially anxious. As a result, reiterating the complexity of the relationship between victimisation and social anxiety.

Moreover, in contrast to the research stated earlier, Storch et al. (2005) failed to find any significant relationships between victimisation and social anxiety. The researchers concluded that social anxiety did not pose any risk for victimisation in their follow up assessment one year later. Furthermore, that victimisation did not predict levels of social anxiety. As a consequence, suggesting that there may be other factors involved in the relationship between victimisation and social anxiety.

This research therefore paints a clear picture for the role of social anxiety being a risk factor for victimisation, with a wide range of evidence supporting this notion. Moreover, due to this risk factor being so prevalent in the literature it gives us a rational to investigate if the current research can add to these findings. However, due to the complex nature and mixed results regarding any bidirectional effects noted earlier, this also gives us a rational to investigate the impact of victimisation on social anxiety. As a result, based on the findings concluded by researchers such as Acquah et al. (2016) and Navarro et al. (2012) it is hypothesised that:

H1= Social anxiety will predict victimisation.

Furthermore, due to the bidirectional relationship revealed by researchers such as Fekkes at al. (2006) and Siegel et al. (2009) it is also hypothesised:

H2= Victimisation will predict social anxiety.

Victimisation and Friendship Quality

As well as social anxiety, an individual's relationships with their peers has also been found to be a risk factor for victimisation (Hodges & Perry, 1999). In their work, Eslea at al. (2003) investigated the differences in children's friendships and victimisation in seven different countries. They concluded in all 7 countries, those pupils who were alone during playtime were victims of bullying. Furthermore, in 6 of the countries victims had the fewest number of friends and in 2 of the countries, victims were rated as the least liked in their class. This finding therefore suggests that having fewer friends increases the risk of bullying. Furthermore, that this finding can be generalised across the globe.

Friendships in childhood serve crucial developmental functions (Hartup, 1993), with friendships of a high-quality leading to a positive psychological adjustment (Parker & Asher, 1993). However, those of a low-quality can have drastic implications for the child. Bukowski et al. (1994) suggested there are five dimensions to friendship quality: closeness, conflict, security, help and companionship. The researchers stated that demonstrating a high or low-qualityof each of these dimensions can either promote or inhibit adjustment in a child. Research has suggested that if a child is displaying a low-quality friendship they put themselves at risk of being victimised. For instance, looking at the five domains of friendship quality and their association with victimisation, You and Bellmore (2012) concluded that those adolescents who reported high levels of victimisation suffered from poor quality friendships, which then led to internalising behaviours (e.g. anxiousness, are unable to stick up for themselves). Specifically, You and Bellmore (2012) found that conflict between friends mediated the effect of victimisation and internalising behaviours. This was also true for help, whereby a child feels their friend is not there to protect them or offer help during their time of need. This study therefore demonstrates the importance of the domains of friendship quality and the risk of victimisation.

Hodges et al. (1997) also looked at the role of the internalising behaviours that are commonly found in victims of bullying. The researchers studied these behaviours and how they are associated with victimisation and a child's social relationships. It was later revealed that there was an increased risk of victimisation posed by a child displaying internalising behaviours. However, this risk was even greater for those individuals who lacked friends and also the quality of their friendship was weak, for example their friends did not stick up for them. Furthermore, the risk of victimisation was also increased when the victim was disliked by their peers.

Bollmer et al. (2005) in a study of 99 children also found that as well as displaying internalising behaviours, children with low-qualityfriendships were more likely to be victimised. Once more, Crawford and Manassis (2011) concluded that a child displaying poor social skills were more likely to suffer from poor quality friendships. In addition to this, these friendships of a low-qualityin turn led the child to be at risk of victimisation. Therefore from this, it can be suggested that children lacking in friends and having poor quality friendships is a risk factor for victimisation.

However, as well as a risk factor for victimisation, research has revealed that friendship quality is also a protective factor for victimisation. This stems from the idea that positive friendship qualities have protective abilities against negative life factors (Bukowski et al., 1994). Furthermore, that having one or multiple friends of a high-qualitycan reduce the risk of being victimised, because they act like a "buffer" against the negative effects of victimisation (Kochenderfer & Ladd, 1997).

Hodges et al. (1999) concluded in their study that having a best friend decreased victimisation. Although, the researchers also stated that just having multiple friends is not enough to protect one from victimisation. It is in fact the quality of these friendships that will determine the level of protection. This was also found by Schmidt and Bagwell (2007), who revealed that a positive friendship quality was a buffer against victimisation. In particular,

they found that help and security were especially important in the role of a positive friendship quality and the reduced risk of victimisation.

Further support for the protective factors of friendship quality also comes from Malcom et al. (2006). The researchers firstly concluded that those children who had a large amount of friends were found to be accepted by their peers and also received lower scores of victimisation. In addition, they also revealed that children with high-qualityfriendships were less likely to suffer from victimization because their friends offered them support and companionship.

Additionally, one study that demonstrates that friendships can both be a risk and protective factor comes from Boulton et al. (1999). This study concluded that adolescents who had friendships that were reciprocated at both the initial study and a follow up were found to have reduced levels of victimisation. Whereas, those individuals who were without a friend at both points of the investigation demonstrated an increase in victimisation. In addition, the researchers also concluded that a decrease in conflict and betrayal amongst peers was associated with a decreased level of victimisation. As a consequence, demonstrating the importance of friendships and also friendship quality in childhood and adolescence.

Taking these points into consideration, it can be suggested that friendships have a large impact in a child's and adolescent's life both negatively and positively. Thus, this importance gives us a rational to study this further. Research has consistently shown that an individual needs to not only have lots of friends to protect them from victimisation, but also good quality friendships. However, when an individual lacks friends and also has poor quality friendships, this increases the risk for being victimised. Therefore, based on findings such as You and Bellmore (2012), Hodges et al. (1997), Bollmer et al. (2005) and Crawford and Manassis (2011), it is hypothesised that:

H3= Poor friendship quality will predict victimisation.

In addition, taking the work of Hodges et al. (1999), Malcom et al. (2006) and Boulton et al. (1999) into consideration, it also hypothesised that:

H4= There will be a negative relationship between high-qualityfriendships and victimisation.

Gender has also been found to be a risk factor for victimisation (Young et al., 2006). Therefore, in the following section, gender differences in victimisation will be explored further.

Gender Differences in Victimisation

Not only is there a shift in the types of bullying due to age, research has revealed that gender can also influence the form of bullying one encounters. For instance in their study, Jeffrey et al. (2010) revealed that boys were more likely to be a victim of physical bullying as oppose to girls. Furthermore, that girls reported more instances of indirect bullying. As well as indirect bullying, Whitney and Smith (1993) concluded that females withstood more verbal bullying when compared to males in both primary and secondary school children.

Rivers and Smith (1994) also revealed in high school students, boys were more likely to be physically bullied when compared to females (12% and 5%, retrospectively). In addition, females were more likely to be a victim of verbal bullying (24%) in contrast to males (23%). Finally, girls were also found to have an increased risk of being bullied indirectly (10%) when compared to males (8%). However in saying this, in their investigation Rivers and Smith (1994) found that in primary schools 41% of boys were victims of verbal bullying in comparison to 39% of females. Therefore, suggesting that age is also a mediating factor for the types of bullying an individual encounters.

These findings are commonly noted in the literature, with a large proportion suggesting that males are more at risk of physical bullying and furthermore, that females are more likely to be victims of indirect bullying, such as gossiping (Hoover et al., 1992;

Lagerspetz et al., 1988; Hong & Espelage, 2012; Carrera Fernández et al., 2013; Felix & McMahon, 2006).

As well as the type of bullying influenced by gender, so is the probability of it occurring. Also a frequent finding in the literature is that males are not only more likely to be the preparator of bullying, but also the victim (Boulton & Underwood, 1992). Furthermore, it is younger boys who are at the most risk of being victimised (Olweus, 1994). For example, in a sample of 5,385 students it was concluded that 42% of victims were males and 33% were females (Liang et al., 2007). In support of this, Eslea and Mukhtar (2000) also discovered that the prevalence of victimisation was higher for boys (57%) in comparison to girls (43%).

Although in saying this, in a study of 238 pupils Baldry and Farrington (1999) discovered that although over half of the students reported they had been a victim of bullying, it is females who are more risk. They concluded that 34% of those who were victimised were females and 25% were males. Also as previously stated, the researchers found that boys were more likely to be a victim of physical bullying whereas females were bullied indirectly.

Moreover, some research has failed to find any significant gender differences in victimisation. For example, Charach et al. (1995) discovered that both males and females were both equally likely to be a victim of bullying. This finding was also concluded by Scheithauer et al. (2006), although the researchers did conclude that boys reported being physically bullied more frequently than girls.

In terms if cyberbullying however, research has also failed to be consistent in regards to sex differences in cyber-bully victims. Some research has displayed a slight shift towards an increased risk for females as oppose to males (Smith et al., 2008). This has further been supported by Li (2007), who revealed that 60% of victims of cyberbullying were female and 52% were male. Moreover in their study of 149 students, Heiman and Olenik-Shemesh (2015) concluded that females were more likely to be cyber-victims as oppose to males.

However this finding is not consistent, with some researchers such as Li (2006) revealing there to be no significant differences in gender and being a victim of cyberbullying. This finding has also been concluded by Slonje and Smith (2007) who suggested that both males and females have an equal risk of being victims of cyberbullying. To add to the controversy, Erdur-Baker (2010) in their study of 276 adolescents concluded that in fact males (24%) were more likely to be victims of cyberbullying when compared to females (20%).

From the research stated above, it can be seen there is some discrepancy regarding which gender is more likely to be at risk of victimisation. Therefore, this discrepancy gives us a rational to investigate gender differences in victimisation in the current investigation. As a consequence, due to the contradicting work of researchers such as Eslea and Mukhtar (2000) and Baldry and Farrington (1999) it is predicted:

H5= There will be a gender difference in self-report measures of victimisation, however which gender is more at risk remains to be seen.

Due to the consistency in the literature, it can also be suggested that males are more likely to be victims of physical bulling in comparison to females and females have a greater risk of being indirectly bullied. However, gender differences in cyberbullying and verbal are less clear. This therefore gives us a rational to also investigate the prevalence of physical, indirect and cyberbullying amongst males and females to see if we can add to the current literature. Therefore, in the current investigation, it is predicted that:

H6= Males will report higher levels of being a victim of physical bullying compared to females.

H7= Females will report higher levels of being a victim of indirect bulling compared to males.

H8= There will be a gender difference in being a victim of verbal bullying.

H9= There will be a gender difference in being a victim of cyber bullying.

Next, further consequences of being a victim of bullying will also be reviewed. Existing research has proposed that being a victim of bullying is not damaging to one's mental health. In fact, although unpleasant, it has been suggested that being bullied is a "normal" school experience and has no damaging long-term effects (Tolan, 2004). Conversely, a copiousness amount of literature has suggested otherwise. For instance, in a study of 661 children Baldry (2004) investigated the impact of victimisation on mental health. It was revealed that indirect bullying such as spreading rumours, was significantly associated with depression, anxiety and withdrawn behaviours. Therefore, concluding that being a victim of bullying can have detrimental effects on a child's psychiatric health, even causing some individuals to commit suicide in extreme cases (Fu et al., 2014; Anderson et al, 2015).

This has further been supported by van der Wal et al (2003), who looked at the influence of indirect and direct bulling on psychosocial health in 4811 children ages 9-13. It was concluded that children who were bullied indirectly were more likely to develop depression and have suicidal thoughts. Furthermore, oppose to Baldry (2004), the researchers also found associations between direct bullying and depression. However, indirect bullying was a higher predictor. This study was also the first to demonstrate an association between victimisation and suicidal ideation in children as young as 9 years old. Moreover, Rothon et al (2011) concluded that victimisation increases the risk of childhood depression by 42%. This study also revealed not only does victimisation cause psychological harm, it also influences the child's academic achievement, demonstrating that individuals being bullied were 54% less likely to reach their academic targets. As well as depression, social anxiety and suicidal ideation, being a victim of bullying has also been found to impact a child's level of self-esteem. Hence, the following section will review this association further.

Victimisation and Self-Esteem

Self-esteem is defined as a positive or negative view of the self and one's evaluation of self-worth (Rosenberg, 1965). Specifically, it has been frequently noted in the literature that victimisation diminishes one's self-esteem (Rigby & Slee, 1993; Rigby & Cox, 1996; Bjorkqvist et al., 1992). One study that demonstrates this is Salmivalli et al (1999), who looked at how three types of self-esteem in 316 pupil's aged 14-15 were related to bullying. They revealed that those pupils who scored low on all of the three measures of self-esteem were found to be victimised to the greatest extent by their peers. When looking at pupils who were categorised as being chronically bullied (i.e. had been subjected to physical and verbal bullying, sexual harassment and racism), it was revealed those individuals had significantly lower self-esteem and had feelings of worthlessness in comparison to others in the sample (Coggan et al., 2012).

Furthermore, in support of this, O'Moore and Kirkham (2001) also revealed that those children who reported they had been bullied had a lower global self-esteem when compared to children who had never been bullied. Importantly, the more frequently an individual reported being bullied, the lower their self-esteem. O'Moore and Kirkham (2001) also demonstrated that self-esteem was a protective factor for any involvement in bullying. Thus, concluding the strong relationship between self-esteem and victimisation.

This finding has been further strengthened by Matsui et al (1996) who also investigated the correlation between levels of victimisation and self-esteem. In their study of male students, the researchers concluded that the more severe the bullying was, the lower levels of self-esteem. However, this finding is not consistent. Boyle (2003) investigated the negative correlation between the degree of bullying an individual endures and their level of self-esteem in 124 students. Oppose to O'Moore and Kirkham (2001) and Matsui et al (1996), no overall significant relationship was found. Although Boyle (2003) did find a significant relationship between particular types of bullying and self-esteem.

Due to the increased use of smartphones and social media in children and the growing issue of cyberbullying in adolescents today (Li, 2007), it is also crucial to investigate the effects of cyberbullying and self-esteem. As a result, Patchin and Hinduja (2010) studied 1963 student's levels of self-esteem and their experiences of cyberbullying. The researchers concluded that there was a significant correlation between cyberbullying and low self-esteem, even after demographic variables were controlled for, when compared to children who had never been cyberbullied. Therefore, suggesting that bullying both traditionally and online has a negative impact on one's self-esteem.

In their study, Matsui et al (1996) also suggested there to be a bidirectional relationship between victimisation and low self-esteem. This refers to the idea that not only does being a victim of bullying generates low-self-esteem, it is also an antecedent of bullying. As a result, it is the low self-esteem of the individual that makes them a target to the perpetrator. This idea was also examined by Egan and Perry (1998) who tested the hypothesis that global self-worth encouraged an individual to be victimised. It was later discovered that low self-regard contributed to victimisation, in particular, one's sense of peer social competence. In addition to this, it was also revealed that being a victim of bulling also contributed to low self-regard. As a consequence, this finding led the researchers to conclude the existence of a "vicious cycle" between victimisation and low self-esteem.

The current literature surrounding the effect victimisation has on an individual's self-esteem is therefore clear. Not only does victimisation cause an individual to experience low self-esteem, low self-esteem has also been found to increase the risk of being victimised. As a result, this demonstrates the important role self-esteem plays in bullying and therefore provides us with a rational to explore the associations between victimisation and self-esteem. In light of this, the current study will investigate if there is a bidirectional relationship between victimisation and self-esteem and as a result based on research such as, Matsui et al (1996) and Egan and Perry (1998), it is hypothesised that:

H10= Low self-esteem will predict victimisation.

H11= Victimisation will predict low self-esteem.

As well as investigating how much social anxiety, low self-esteem and friendship quality account for the variance in victimisation, each of these variables will also be assessed to determine if they make a significant contribution to victimisation after statistically controlling for the other variables. Therefore, it will be investigated if:

H12= Social anxiety predicts victimisation after controlling for the influence of friendship quality and self-esteem.

H13= Friendship quality predicts victimisation after controlling for the influence of social anxiety and self-esteem.

H14= Self-esteem predicts victimisation after controlling for the influence of social anxiety and friendship quality.

Psychometric Properties

In order for a scale to effective, it is crucial the measurement has respectable psychometric properties and therefore is reliable and valid (Tavakol & Dennick, 2011). Reliability has been defined as the capability of a measurement to replicate its results despite alterations in the conditions of testing. Validity however, is the extent a measurement captures the construct that it is aimed to capture (Elliot et al., 2016).

Cronbach's Alpha (Cronbach, 1951) is a statistical test which measures a scales reliability. It is expressed as a number between 0 and 1, where a high score demonstrates a scale has a high level of reliability. However, a cut-off point of 0.7 has been suggested by Nunnaly (1978), whereby a coefficient of 0.7 and over is seen to be a respectable level of alpha. Although, not all researchers have come to an agreement with this statistic and have stated that in a fact an alpha score needs to be 0.90 at a minimum (Bland & Altman, 1997).

Reliability of a scale can be determined by computing a Principals Component Analysis (PCA). A PCA can demonstrate how many important factors a scale is measuring

and this can be done by computing a Scree Plot (Cattell, 1966). A PCA generates Eigenvalues which express how essential the variables a scale is measuring are. Furthermore, it is these Eigenvalues that are placed on a graph to create a Scree Plot. Cattell (1996) argued that you can determine how many important factors are being measured in a scale by looking at where the point of inflection (the first significant break) is on the graph. It is those factors on the left-hand side of the inflection that are considered as important. However, due to the subjective nature of this test (Zwick & Velicer, 1982), Kaiser (1960) suggested an alternative method of determining how many important constructs a scale is measuring. This method suggests that any Eigenvalue greater than 1 is seen as significant.

Another test of validity a PCA can demonstrate is to what extent do the items on a scale contribute to the main factor. Field (2009) states that a factor loading score of .30 and over is acceptable. However, there is inconsistency in the literature as Stevens (2002) suggests that a factor loading score should be .40 and over.

A further test of validity that demonstrated by a PCA is how much variance in the results can be explained by the underlying factor that is being measured. It is essential that the factor being measured explains a large amount of the variance. Researchers have suggested that 30% of the variance and over is an acceptable amount of variance.

As a consequence, the psychometric properties of the scales will therefore also be tested and it is predicted that all scales will be psychometrically sound. A Cronbach Alpha test will be ran on all scales used in the final investigation. Due to Streiner (2003) suggesting that an alpha score that is too high may be an indication of redundant items, Nunnaly's (1978) cut off point of 0.7 will be implemented and it is anticipated that all scales will be reliable. A PCA will also be computed and all the scales should demonstrate they are all only measuring one main factor and as a result is unidimensional. Furthermore, that all items on the scale have factor loading scores of .40 and above and finally that 30% or more of the variance in participant's scores are explained by the main factor of the scale in question.

Method

Participants

This study was firstly granted ethical approval from The University of Chester Psychology Ethics Committee (see Appendix A). Furthermore, it was conducted in accordance with the British Psychological Society Ethical Code of Conduct (BPS, 2009). The participants in this investigation were recruited from 6 different primary and secondary schools across the North West of England, Wales and Gibraltar. Using a convenient sample, a total of 654 were used consisting of 327 females, 281 males and 40 participants who preferred not to say and a further 6 who did not answer this answer this demographic. The children used in this study were aged 10-16 with the mean age being 13.

Measures

The participants in this study engaged in an online questionnaire. The questionnaire firstly began by asking for simple demographic information such as age and gender. Next, in order to test victimisation, the Self-Report Victimisation Scale (Boulton et al., 2008) was utilised in the questionnaire. This scale consists of 8 items which question how many times an individual has experienced different forms of victimisation by their peers. These included: hit or kicked, called a nasty name, being mean over text or online and being left out of games, which assessed psychical, verbal, cyber, and indirect bullying, retrospectively. The scale also asked for a time frame when these experiences occurred for example during the last year or during the last 2 weeks. The scale was rated by a four-point response option scoring from 0 to 3. The response options consisted of “never”, “not very often”, “sometimes” and “lots of times”, with “never” constituting as a score of 0 and “lots of times” a 3. As an example, an item included in the scale is “how often in the last year has another child hit or kicked you to make you feel bad?” (See appendix B for full questionnaire). To generate an overall score of self-reported victimisation, the mean score across the two time durations (last year and 2 weeks) for each victimisation type (psychical, verbal, cyber and indirect) was

calculated. A high score on this measure indicates greater levels of self-reported victimisation.

Boulton et al (2008) tested the validity of this scale in their work by correlating participants questionnaire scores with interviews conducted previously in the study. As a result, *t* tests revealed that individuals who reported themselves as being victims to a specific type of bullying had higher corresponding scores on the Self-Report Victimisation Scale. As a consequence, demonstrating this scale is a valid measurement of victimisation.

The Friendship Quality Scale (Bukowski, Hoza & Boivin, 1994) was also administered. This is a multidimensional instrument to measure both children and adolescent's relationships with their best friends. The original scale aimed to assess five dimensions of friendship quality: companionship, conflict, help/aid, security and closeness. However for the purpose of this investigation, only the companionship and conflict subscales were utilised. Both the companionship and conflict subscales consists of 4 items therefore in total 8 items were used to identify a child's friendship quality. For instance an item on the companionship subscale was "My friend thinks of fun things for us to do together" and an example from the conflict subscale was "I can get in to fights with my friend". Furthermore, the same 4 point response options were used for the two scales: "never", "not very often", "sometimes" and "lots of times". These were also scored from 0 to 3 with "never" receiving a score of 0 and "lots of times" a 3. To generate an overall score of companionship and conflict the mean was calculated for each child. A child receiving a high score on the companionship subscale demonstrates a high friendship quality. In addition, high scores on the conflict subscale relates to a low friendship quality.

In the original study Bukowski, Hoza & Boivin (1994) demonstrated the reliability of these subscales by yielding alpha scores of .71/.73 and .77/.76 for the companionship and conflict scale retrospectively across two samples. The researchers also established the validity of the scale by comparing mutual and non-mutual friends and also stable and non-

stable friends. It was revealed that mutual and stable friends received higher friendship quality scores and as a result the researchers concluded the scale has criterion validity.

Self-esteem was measured using the State Self-Esteem Scale created by Thomaes et al. (2010). This scale was derived to reflect other widely used measures of self-esteem (Rosenberg, 1979) and aims to identify levels of self-esteem at that specific time point in adolescents. It is a 6 item scale and is made up of both positively (e.g. “I am proud of myself right now”) and negatively (e.g. “I am disappointed in myself right now”) worded items. The items were responded to using a 5 point scale ranging from “never” to “lots of times”. Responses for the positively worded items were scored from 0 to 3 with “never” constituting as a score of 0 and “lots of times” a 3. However, the negatively worded items were reverse scored to bring them back in line and therefore as a consequence, “never” generated a score of 3 and “lots of times” a 0. Mean of scores would then be computed to give an overall state self-esteem score. From this, a high score would indicate high levels of state self-esteem and a low score would imply low levels of self-esteem. In their original study, Thomaes et al (2010) also provided evidence that this measurement of self-esteem is psychometrically sound, demonstrated by acceptable levels of alpha (.78 and .80).

Any perceived positive effects of bulling were measured using Boulton (in preparation). This scale contains 6 items and invited participants to answer to what degree do they agree with the statements. In total, 4 positively worded (e.g. “Being bullied might help somebody become a stronger person who can deal better with bad things”) and 2 negatively worded items (e.g.” being bullied can never help a person)” were used in this scale. The response options were scored on a 4 point scale (0-3) ranging from “not at all” to “very much”, this was reversed however for the 2 negatively worded items. A mean score of any positive effects was calculated and a high score on this scale would demonstrate an individual perceiving bullying can help a person.

To test the children's level of social anxiety the Social Concerns/Concentration subscale of The Revised Children's Manifest Anxiety Scale (RCMAS, Reynolds & Richmond, 1985) was also implemented in the questionnaire. This scale was derived from the Children's Manifest Anxiety Scale (CMAS, Casteneda, McCandless & Palermo, 1956) and is a self-report measure that determines the degree and nature of children and adolescents' anxiety aged 9-19 (Gerald and Reynolds, 1999). The scale was later revised to be an objective measure of anxiety, to diminish the amount of time to administer and to meet acceptable levels of psychometric standards. In total, the scale consists of 37 items, 28 of which are computed to gain a total anxiety score. These 28 items are further divided in to three subscales: Physiological Anxiety, Worry/Oversensitivity and Social Concerns/Concentration. The Social Concerns/Concentration subscale consists of 7 items and aims to measure any distressing thoughts or fears that may distract an individual, which can be of a social or personal nature. An example of an item on this scale is "Others seem to do things easier than I can". The children had a choice of 4 response options which generated a score of 0 to 3: "totally true for me", "quite a lot true for me", "only a bit true for me" and "not at all true for me". A child who chose the response option "not at all true for me" received a score of 0 and those who selected "totally true for me" received a 3. To compute an overall score of the Social Concerns/Concentration Anxiety an average of responses for each child was computed. As a result, a high score on this subscale would imply that a child feels they are incapable of meeting expectations, they feel inadequate and find it difficult to concentrate.

The reliability of this scale has been demonstrated by Reynolds and Richmonds (2000), who reported considerably high levels of alpha ranging from 0.78 to .85 in European and African American children ages 10-13. As a result this, demonstrates a respectable level of internal consistency (Nunnally, 1978). Furthermore, test-retest correlations of the total anxiety score have been found to receive a coefficient of .68 (Reynolds, 1980). The validity and reliability of the three subscales have also been ensured by Varela and Biggs (2006).

The authors found high levels of internal consistency across Mexican, Mexican American, and European American children and their scores were not significantly different to one another.

Participant's smart phone and social media usage will also be questioned using 4 items from the Global Kids Online quantitative toolkit (Global Kids Online, 2016). This questionnaire is currently being used to generate cross national data to investigate young people's online behaviour and attempting to create solutions to protect children's well-being when online. This questionnaire will quantify the time children spend on their smartphone by asking how long they spend on their phones on an average day ranging from "little to no time" to "5 or more hours". Furthermore, there is also a neutral response option for those who do not have access to a smart phone. Therefore this section is scored from 0-5 and a high score would demonstrate high smartphone usage. The next part will then measure if the children have access to social media apps/websites such as Facebook and Twitter on their smartphones. In addition, it will question if they have ever been a victim or perpetrator of bullying someone through their smartphones and the apps they have access to. This will be scored on a 5 point scale (0 to 4) starting from "never" to "lots of times" and again there is a neutral response option. A high score on these items would suggest the children have access to social media accounts and have also been a victim of bullying or have bullied someone online.

A concise version of the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) was also used to identify any effects of resilience. The original scale consists of 25 items, however for the purpose of this investigation the condensed 10 item version will be implemented. This scale intends to measure one's ability to cope with stress and was created to be used on clinical samples however it is now widely used on both adults and adolescents. One of the items on this scale is "Coping with stress can strengthen me". Participants were invited to respond to the items on a 5 point scale and are scored from 0-4 starting from "not true at all" ranging to "true all the time". Therefore, a high score on this

scale would indicate a high level of resilience. This scale has been proven to have good psychometric properties, with Connor & Davidson (2003) in their study concluding an alpha of .89. Furthermore, they also demonstrated both convergent and discriminant validity. This result has also been confirmed by Aloba et al (2016) who found an alpha level of .81 in a sample of US students. The scale has also found to be successful in different populations in Brazil and Spain (Lopes & Martins; 2011; Antunez et al, 2015).

Procedure

Schools across the North West of England, Wales and Gibraltar were approached by email and were invited to take part in this investigation (see appendix C). If interested, the head teacher granted approval for the researchers to go in to their school and administer the questionnaire. Therefore, ethical approval was granted to students on behalf of the head teacher. Furthermore, due to the fact that the researchers would never be left alone with the children, this removed the need for a DBS check. However, it was crucial that a teacher was present at all times.

In order to complete the questionnaire, the pupils needed access to a computer and the internet. Once at a computer, a unique Bristol Online Survey link directing the pupils to the questionnaire was distributed. Before completion of the questionnaire, the researcher read aloud to the pupils an information sheet which informed them of the nature of the research and what taking part would involve (see appendix D). The children were asked to answer truthfully and were advised that the questionnaire was not a test. In addition, they were also informed that they did not have to take part if they did not want to. If so, the pupils were invited to simply close down the questionnaire and browse the internet or do some work. Pupils were also informed that it was okay if they wanted to leave out a specific question. Although some of the questions used were slightly sensitive, they were not aimed to cause distress. However, if the pupils felt any discomfort they were informed they could speak to one of the researchers or their teachers. Furthermore, the helpline for ChildLine

was also provided to the pupils. The participants were advised that their identity would remain anonymous and their answers would not be traced back to them. In addition, their data would be kept secure as there were passwords put in place that only the researchers had access to.

The questionnaire consisted of two questions regarding demographics (age and gender) and seven diverse questionnaires; The Self-Report Victimisation Scale (Boulton et al., 2008), The Friendship Quality Scale (Bukowski, Hoza & Boivin, 1994), The State Self-Esteem Scale (Thomaes et al, 2010), Positive Effects (Boulton, in preparation), The Social Concerns/Concentration subscale of The Revised Children's Manifest Anxiety Scale (RCMAS, Reynolds & Richmond, 1985), parts of The Global Kids Online Quantitative Toolkit (Global Kids Online, 2016) and the CD-RISC (Connor & Davidson, 2003). The pupils were then left to complete their questionnaire privately. By being present at the time the participants were completing the questionnaire, the researchers could identify if any pupils were discussing their answers or were not answering in a serious manner.

Upon completion of the questionnaires, the pupils were then asked to close down their web browsers and were then debriefed (see appendix E). The debrief sheet provided further information regarding the nature of the study and it was reiterated if they felt any discomfort they could speak to a member of the research team or their teachers. Furthermore, contact information for support services such as Childline were given again. The participants in this study did not receive any benefits for taking part.

Design and analysis

A cross-sectional survey design was used for this investigation. Although multiple scales were used in this questionnaire, for the purpose of this research only the results of the victimisation, social anxiety, friendship quality and self-esteem scale were analysed. Firstly, to test if all scales were psychometrically sound, a Cronbach Alpha and Principal Components Analysis was computed on each scale that was under investigation in this

study. Next, H1, H3 and H10 could all be measured using the same model. Therefore a multiple regression was computed, with social anxiety, low friendship quality and self-esteem as the predictors and victimisation as the dependent variable. To test H12, H13, H14 which examined any unique effects, a hierarchical regression was used, statistically controlling for each variable in turn. To test H2, H4, H11 a simple regression was used for each. Finally, to test for any gender differences (H5, H6, H7, H8, H9), an independent t-test was computed. All of these tests were ran using IBM SPSS package version 24.

Results

Testing Psychometric Properties: Reliability

To ensure the results yielded from this investigation are valid and reliable, the psychometric properties of the scales used will firstly be analysed.

Table 1
Cronbach Alpha Scores for all measures

	Cronbach α
Social Anxiety	.85
Friendship Companionship	.74
Friendship Conflict	.80
Self-Esteem	.87

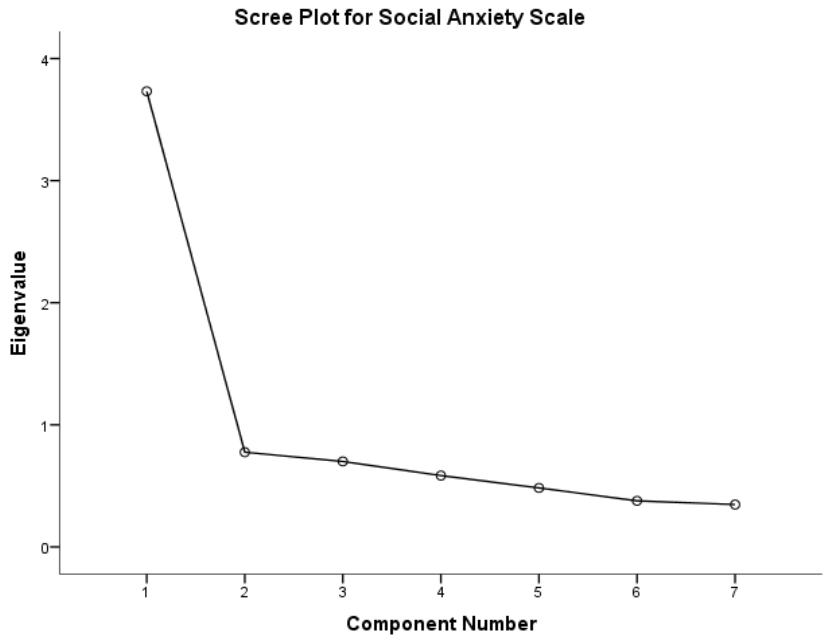
As can be seen by table 1, all scales under examination exceed Nunnalys' (1978) cut off point of 0.7 and as a result are regarded as reliable measures. An alpha score was not computed for victimisation, as people are bullied in different ways and therefore cannot be tested in the same psychometric way.

Testing Psychometric Properties: Validity

As a test of validity, a PCA was computed on the "Social Concerns/Concentration subscale of The Revised Children's Manifest Anxiety Scale" (RCMAS). To firstly investigate how many main factors this scale was measuring, the Eigenvalues for each component was obtained. A Scree Plot was generated from the Eigenvalues and as can be seen in figure 1, the point of inflection is at the second factor. Therefore, using Cattel's (1966) method, when looking to the left of the inflection there is only one main factor being measured in this scale.

Figure 1

Scree Plot for Social Anxiety Scale



As a further test to investigate how many main factors are being measured, using Kaiser's (1960) K1 rule shown in table 2, it can also be suggested that there is only one main factor. As a result, with both Cattell's (1966) and Kaiser's (1960) criteria stating there is only one factor being measured, it can be confirmed that this scale is uni-dimensional.

Table 2
Eigenvalues for Social Anxiety Scale

	Eigenvalue
Item 1	3.73
Item 2	.78
Item 3	.70
Item 4	.58
Item 5	.48
Item 6	.38
Item 7	.35

The social anxiety subscale of the RCMAS factor loadings are demonstrated in table 3. Using Stevens' (2002) criteria, it can be seen that all items have a loading score of above 0.4 and therefore it can be suggested that all items in this scale contribute to the main factor.

Table 3
Factor Loading Scores for Social Anxiety Scale

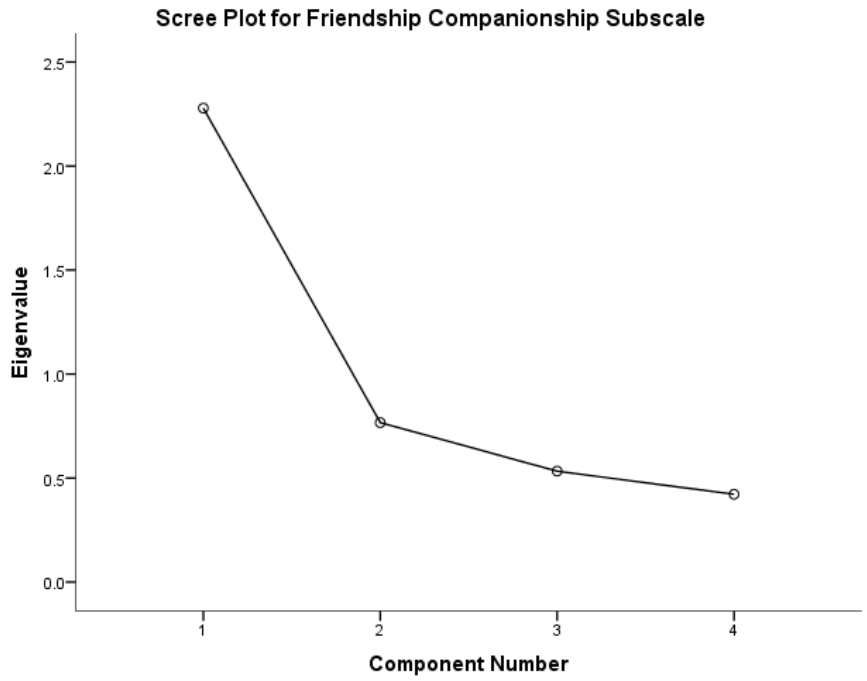
	Factor Loading Score
Item 1	.61
Item 2	.77
Item 3	.80
Item 4	.76
Item 5	.76
Item 6	.58
Item 7	.79

The main factor accounted for 53.31% of the variance (see appendix F), which is seen as acceptable. As a consequence, these findings suggest that the social anxiety subscale in the RCMAS is valid and reliable. Thus, an average score was generated (with a high score demonstrating high levels of social anxiety) and this was used in subsequent analyses.

Next, a PCA was computed on the companionship subscale of "The Friendship Quality Scale" which related to high friendship quality. The Scree Plot was generated from the Eigenvalues and as can be seen in figure 2, the point of inflection is at the second factor. Therefore, suggesting there is only one main factor being measured.

Figure 2

Scree Plot for Friendship Companionship Subscale



The finding that there is only one main factor was also confirmed by looking at the scales Eigenvalues, as shown in table 4. As a result, demonstrating that this subscale is uni-dimensional.

Table 4
Eigenvalues for Friendship Companionship Subscale

	Eigenvalue
Item 1	2.28
Item 2	.77
Item 3	.53
Item 4	.42

The factor loadings for the friendship companionship subscale are shown in table 5. This table shows that all items have a factor loading score of above 0.4 and as a result it can be concluded all items highly load onto the main factor.

Table 5
Factor Loading Scores for Friendship Companionship Subscale

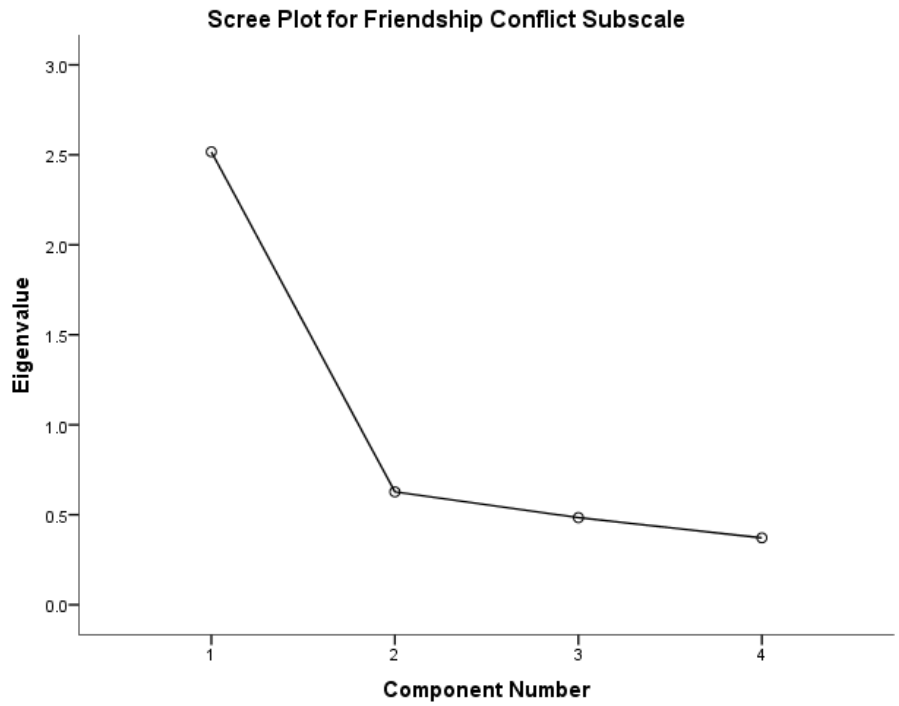
	Eigenvalue
Item 1	.81
Item 2	.82
Item 3	.76
Item 4	.62

The main factor accounted for 56.96% of the variance and is therefore an acceptable level. As a consequence, these findings suggest that the friendship companionship subscale of the friendship quality scale is in fact uni-dimensional and is a valid measurement. Thus, an average score was generated (with a high score demonstrating high levels of friendship quality) and this was used in subsequent analyses.

A PCA was also computed on 4 items of “The Friendship Quality Scale” that related to friendship conflict. The Scree Plot was generated from the Eigenvalues and as can be seen in figure 3, the point of inflection is at the second factor. Therefore, suggesting there is only one main factor being measured.

Figure 3

Scree Plot for Friendship Conflict Subscale



This finding has also been confirmed by Kaisers' (1960) criterion and as shown in table 6, there is only one factor above 1. As a result, it can be confirmed that this subscale is uni-dimensional.

Table 6
Eigenvalues for Friendship Conflict Subscale

	Eigenvalue
Item 1	2.52
Item 2	.63
Item 3	.48
Item 4	.37

The friendship problem subscale's factor loadings are demonstrated in table 7. Here, it can be seen that all items have a loading score of above 0.4 and therefore it can be suggested that all items in this scale load onto the main factor highly.

Table 7
Factor Loading Scores for Friendship Conflict Subscale

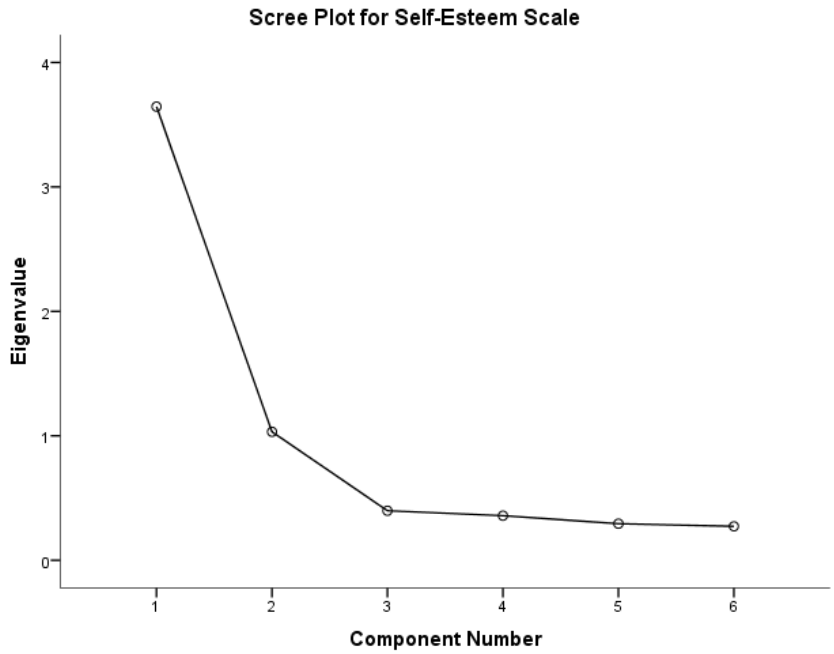
	Eigenvalue
Item 1	.75
Item 2	.80
Item 3	.85
Item 4	.77

The main factor accounted for 62.91% of the variance, which is seen as an acceptable. As a consequence, these findings suggest that the subscale related to a friendship conflict in "The Friendship Quality Scale" is also valid and reliable. Thus, an average score was generated (with a high score demonstrating high levels of conflict in a friendship and thus, a low-quality friendship) and this was used in subsequent analyses.

Finally, the "State Self-Esteem Scale" was analysed with a PCA. As seen by figure 4, the scale is only measuring one important component.

Figure 4

Scree Plot for Self-Esteem Scale



Kaiser's criterion was also applied to confirm this finding. As table 8 shows however, this resulted in two factors being regarded as important. Therefore, due to the fact that Field (2002) suggests that Kaiser's criterion overestimates how many important factors are being measured and this scale was intended to be uni-dimensional, the results of the Scree Plot will be taken into consideration.

Table 8
Eigenvalues for the State Self-Esteem Scale

	Eigenvalue
Component 1	3.65
Component 2	1.03
Component 3	.40
Component 4	.36
Component 5	.29
Component 6	.27

The factor loading scores are shown in table 9 for this scale and shows that all items load highly onto the main factor that is being measured.

Table 9
Factor Loading Scores for the State Self-Esteem Scale

	Factor Loading Score
Item 1	.78
Item 2	.75
Item 3	.81
Item 4	.77
Item 5	.81
Item 6	.76

Finally, the main factor accounted for a satisfactory level of 60.51% of the variance. Thus, these findings suggest that “The State Self-Esteem Scale” is a reliable and valid measurement of self-esteem. As a consequence, an average score was generated (with a low score demonstrating low levels of self-esteem) and this was used in subsequent analyses.

Before analysis of the data could commence, a mean score for each variable under examination was generated for each participant. This was not however computed for victimisation scores, as we expect participants to respond differently due to different experiences therefore there is no logic for people to be bullied consistently. For friendship quality, the scale measured both positive and negative aspects. Therefore, we computed an average for the companionship subscale, which demonstrated a child was having high-qualityfriendships and named this variable “Friendship Companionship”. The same was done for the conflict subscale and this variable was named “Friendship Conflict”.

Therefore, the mean overall scores for Social Anxiety, Friendship Companionship, Friendship Conflict and Self-Esteem were generated and are displayed in table 10.

Table 10
Means and standard deviations for all measures

	Mean	SD
Social Anxiety	1.83	0.72
Friendship Companionship	2.02	0.66
Friendship Conflict	1.09	0.74
Self-esteem	1.97	0.72

Note. *SD* = Standard deviation

Testing H1, H3 and H10

To investigate if social anxiety, friendship conflict and self-esteem predict victimisation, a multiple regression was ran. When entered together, the three predictors were found to predict a significant amount of variance (38.8%) in victimisation scores R^2 =.39, F (3, 548) = 115.57, p<.001. Of these three variables, it was found that social anxiety significantly predicted victimisation the highest amount (β = -.42, p<.001), although both friendship conflict (β = -.13, p<.001) and self-esteem (β = -.19, p<.001) also made a statistically significant contribution.

Testing H12. H13 and H14

A hierarchical multiple regression was used to assess the ability of social anxiety to predict levels of victimisation even after controlling for the influence of friendship conflict and self-esteem. Self-esteem and friendship conflict were entered at step 1, explaining 28% of the variance in victimisation. After entry of social anxiety at step 2, the total variance explained by the model as a whole was 38.8%, F (3, 548) = 115.57, p<.001. It was revealed that social anxiety explained an additional 10% of the variance in victimisation scores after controlling for friendship conflict and self-esteem, *R* squared change = .10, F (1, 548) = 93.32, p < .001.

A hierarchical regression was also ran to assess the ability of friendship conflict to predict levels of victimisation after controlling for the influence of social anxiety and self-

esteem. Social anxiety and self-esteem were entered at step 1, explaining 37% of the variance in victimisation. After the entry of friendship conflict at step 2 the total variance explained by the model as a whole was 38.8%, F (3, 548) = 115.57, p<.001. It was found that friendship conflict explained an additional 1% of variance in overall scores of victimisation after controlling for social anxiety and self-esteem *R* squared change = .01, F (1, 548) = 13.31, p<.001.

A hierarchical regression was finally ran to assess the ability of self-esteem to predict levels of victimisation after controlling for the influence of social anxiety and friendship conflict. Social anxiety and friendship conflict were entered at step 1, explaining 36% of the variance in victimisation. After the entry of self-esteem at step 2 the total variance explained by the model as a whole was 38.8%, F (3, 548) = 115.57, p<.001. After controlling for the influence of social anxiety and friendship conflict, it was concluded that self-esteem predicted an additional 2% of the variance in victimisation *R* square change = .02, F (1, 548) = 19.34, p<.001.

In the final model, all three measures were statistically significant, with social anxiety recording a higher beta value (β = -9.67, p<.001) when compared to friendship conflict (β = 3.65, p<.001) and self-esteem (β = -4.40, p<.001).

Testing H2, H4, H11

To test for any bidirectional effects of self-esteem, a simple regression was ran to investigate if victimisation scores predicted low levels of self-esteem. It was in fact found that victimisation accounted for 23% of the variance in self-esteem scores which was found to be a significant amount (β = -.48, p<.001), R^2 = .23, F (1,605) = 182.23, p<.001.

This was also done to investigate the influence victimisation has on participant's level of social anxiety. It was revealed that victimisation significantly accounted for 35% of the variance in social anxiety scores (β = -.59, p<.001), R^2 = .35, F (1,583) = 317.30, p<.001.

This test was also computed to investigate if having a high-quality friendship protected an individual from victimisation, demonstrated by lower victimisation scores. It was

concluded that victimisation accounted for 0.3% of the variance, however it was not significant (β = -.06, p= .17), R^2 = 0.3, F (1, 626) = 1.90, p= 0.17.

Gender Differences in Victimisation (H5, H6, H7, H8 and H9)

The mean victimisation scores for each gender was computed and results are displayed in table 11. A high victimisation score signifies the child reporting a high level of bullying.

Table 11
Mean victimization score and standard deviations by gender

	Female	Male
Victimization	0.83 (*SD* 0.74)	0.77 (*SD* 0.65)

Note. *SD* = Standard deviation

To firstly investigate if there was a gender difference in the overall scores of victimisation, an independent sample t-test was computed. It was revealed that there were no differences between males and females in self-reported measures of overall victimisation t(592) = -1.1, p =.27.

An independent sample t-test was also ran to investigate gender differences in specific sub-types of bullying. It was found there was a significant difference in physical bullying with males (M=.77, SD=.88) reporting higher scores when compared to females (M=.50, SD=.78), t(606) = 4.02, p<.001. Significant gender differences were also found for cyberbullying, whereby females (M=. 88, SD= .1.01) had an increased risk of being bullie in this way compared to males (M=.55, SD= .81), t(599) = -4.38, p<.001. Furthermore, it was found that females (M=. 79, SD=. 95) were also significantly more at risk of indirect bullying when compared to males (M= .64, SD=. 85), t(602) = -1.96, p =.05. Finally, no significant gender differences between males (M= 1.15, SD= .93) and females (M= 1.19, SD= 1.06) were found for levels of verbal bullying t(602.63) = -.53, p= .60.

Discussion

This study used self-report measures to investigate social relationships in children and adolescents, specifically looking at social anxiety, friendship quality and self-esteem as risk factors and consequences of victimisation. In addition to this, gender differences in victimisation were also explored to investigate which gender is more at risk for overall victimisation and also specific subtypes of bullying. Participants completed an online questionnaire which gave statements to which they answered to what extent do they agree with the statements provided. When testing the psychometric properties of the scales used in the current investigation, it was found that all scales had an acceptable level of reliability and were uni-dimensional. As a result, it can be concluded that the results yielded from this study are both valid and reliable.

Overall, the results of this investigation clearly demonstrate that bullying is a significant issue in schools and its impact on young people is detrimental. An explanation for this increased likelihood of bullying occurring in schools is most likely due to the fact that the school environment has been found to be a significant risk factor in the predominance of bullying, due to the fact that children spend most of their time there (Volk et al., 2006). An additional reason for this high prevalence in schools has been suggested due to the fact that children at this age have a shared misunderstanding that bullying others is the easiest way to gain dominance in the school (Pelligrini & Bartini, 2000). Furthermore in doing so, will allow other children to idolise them (Rigby, 1996) and to become popular (Nassem & Harris, 2015). This is because children at this age feel the need to be accepted by their peers and have a group identity, which is necessary for cognitive development (Newman-Carlson & Horne, 2004).

Victimisation and Social Anxiety

First of all, it was investigated if social anxiety predicted levels of victimisation. It was later concluded that social anxiety significantly predicted victimisation and in fact, predicted

the most amount of variance when compared to friendship conflict and self-esteem. As a result, H1 can be accepted. Next, to test for any bidirectional effects, it was also assessed if victimisation predicted levels of social anxiety. This test yielded significant results and therefore H2 can also be accepted. This therefore means that if an individual is being bullied their levels of social anxiety are increased. In addition to this, if an individual is seen to be socially anxious, it is this behaviour that makes them a target to the perpetrator and puts them at risk of being bullied.

As a result, in terms of previous literature, our study added to the literature in regards to social anxiety being a risk factor for victimisation (Acquah et al., 2005; Navarro et al., 2012; Fekkes at al., 2006; Siegel et al., 2009; Pabian & Vandebosch, 2016). Moreover, this result also contributes to the current literature surrounding the bidirectional effects of victimisation and social anxiety (Fekkes et al., 2006; Siegel et al., 2009).

However on the contrary, this investigation goes against the findings of Pabian and Vandebosch (2016) who failed to find any bidirectional effects of social anxiety and victimisation. This could be due to the fact that Pabian and Vandebosch (2016) did not look at specific subtypes of bullying. Instead, the researchers only differentiated between being a victim of traditional or cyberbullying. As a result, it fails to take into consideration the differences between specific subtypes, such as physical and indirect bullying, which in previous research has found to influence levels of social anxiety (La Greca & Harrison, 2005).

Victimisation and Friendship Quality

With regards to the relationship between victimisation and friendship quality, the current investigation revealed that reporting having conflict amongst friends significantly predicted levels of victimisation. This therefore suggests that having a poor friendship quality increases the risk of being a victim of bullying. As a result of this, H3 can be accepted. It was also investigated if having a strong friendship quality predicted lower levels in victimisation,

which would therefore suggest a protective factor of having high-quality friendships. However, this test was found to be non-significant and as a consequence H4 must be rejected.

When comparing our results to those that have already been published, the current investigation provides support for a range of studies which state that having low-quality friendships is associated with victimisation (You & Bellmore 2012; Bollmer et al., 2005; Crawford and Manassis, 2011). Although in saying this, our study goes against the findings that high-quality friendships act like a buffer against the negative effects of victimisation (Kochenderfer & Ladd, 1997; Hodges et al., 1999, Schmidt & Bagwell, 2007; Malcom et al., 2006). This could be as a result of the scale the current study used. This investigation only used the friendship companionship subscale of the Friendship Quality Scale (Bukowski, Hoza & Boivin, 1994) which consisted of statements such as “Me and my best friend spend all their free time together” whereby a high score demonstrated a high friendship quality. Firstly, it is possible for a child to be untruthful in these responses and state they have good relationships with their peers, when in fact they don’t. Furthermore, this subscale only consisted of 4 items, therefore information could have been lost due to the size of the scale. As a result, it could be suggested that only using this subscale this is not a good predictor of friendship quality and could be the reason for the non-significant outcome.

Therefore, if this study were to be repeated in the future it may be useful to use additional tests to determine a strong friendship quality amongst the participants. For instance, including the help/aid and security subscales from The Friendship Quality Scale (Bukowski, Hoza & Boivin, 1994), which Schmidt and Bagwell (2007) found to be especially important in reducing the risk victimisation. In addition, as also seen in Hodges et al. (1999), it could be beneficial to ask the participants to note down the names of their three best friends. The children are then only seen as having a best friend if their first choice of friend reciprocally voted for them as one of their best friends. This would therefore remove any

uncertainty of the truthfulness of their responses and also adds an extra test of friendship quality to ensure reliability.

Victimisation and Self-Esteem

A further risk factor noted in the literature as well as social anxiety and poor-quality friendships is low self-esteem. The current study revealed that low self-esteem significantly predicted levels of victimisation. This therefore means that H10 can be accepted. Bidirectional effects were also explored and it was confirmed that victimisation also predicted low self-esteem, as a result H11 was accepted. Similarly to social anxiety, this finding suggests that being a victim of bullying diminishes one's level of self-esteem and also displaying low levels of self-esteem increases the risk of victimisation. Thus, these results can provide additional support for previous studies which have concluded that low self-esteem is a risk factor for victimisation (Matsui et al., 1996; Egan & Perry, 1998). Furthermore, this study also adds to the literature surrounding the bidirectional relationship of victimisation and self-esteem (Matsui et al., 1996; Egan & Perry, 1998) and suggests a "cycle" involved in victimisation.

Victimisation has been found to lead to low self-esteem due it causing an individual to feel worthless, lonely and helpless (Storch & Masia-Warner, 2004; Brown et al., 2008; Bonnano & Hymel, 2010). A theory suggested to be a cause of low self-esteem as a consequence of being a victim of bullying is one's attribution style. Used to help explain psychopathy (Buchanan & Seligman, 1995), this is the idea that individuals wrongly attribute negative life events (such as bullying) internally and in turn leads to a low mood (Kinderman & Bentall, 1996).

As well as social anxiety, friendship quality and self-esteem accounting for the variance in victimisation scores as a group, the current investigation revealed they were also able to significantly predict the variance even after statistically controlling for the other variables. As a result, we can accept H12, H13 and H14. This finding therefore

demonstrates that each of these predictors has a “pure” relationship with victimisation and are all significant contributors to the risk of victimisation and must be taken seriously.

Gender Differences in Victimisation

Finally gender differences in victimisation were also investigated, looking at both the overall prevalence and the specific sub-types of bullying. Unfortunately, an insignificant result was yielded for gender differences in overall victimisation and therefore H5 must be rejected. Therefore, suggesting that males and females are both at equal risk of becoming a victim of bullying. However, when looking at gender differences in being a victim of specific sub-types of bullying, this investigation found that males are significantly more at risk of physical bullying when compared to females. As a consequence, H6 is accepted. This study also found that females are significantly more at risk of being bullied both indirectly and online as oppose to males, therefore we can also accept H7 and H9. However, this study was unsuccessful in finding any gender differences in being a victim of verbal bullying, as a result H8 must be disregarded.

In terms of gender, our investigation goes against the findings which suggest that gender is a risk factor for overall victimisation (Young et al., 2006). Specifically, it does not find support for those studies that state that males are more likely to be a victim (Boulton & Underwood, 1992; Olweus, 1994; Liang et al., 2007; Eslea & Mukhtar, 2000) nor does it provide support for those that suggest females are most at risk (Baldry & Farrington, 1999). Although on the contrary, this investigation has provided support for those studies which state there are no gender differences and both sexes are at equal risk (Charach et al., 1997; Scheithauer et al., 2006).

Moreover, the current investigation provides further support for the studies which state there are gender differences in the risk of the different sub-types of bullying. Specifically, that males are at risk of physical bullying and females are at risk of indirect (Jeffrey et al., 2010; Rivers & Smith, 1994; Hoover at al., 1992; Lagerspetz et al., 1988;

Hong & Espelage, 2012; Carrera Fernández et al., 2013; Felix & McMahon, 2006). This study has also added to the literature in terms of the fact it found a gender difference in cyberbullying, with girls being more at risk (Smith et al., 2008; Li, 2007; Heiman & Olenik-Shemesh, 2015). This therefore goes against the literature which suggest there are no gender differences (Li, 2006; Slonje & Smith, 2007) or that males are most at risk (Erdur-Baker, 2010). However, our study could not add to the current literature regarding the gender difference that males (Rivers & Smith, 1994) or females (Whitney & Smith, 1993) have an increased risk of verbal bullying.

The current study therefore revealed there were no overall gender differences in victimisation. Instead, there were clear gender differences in specific subtypes of bullying. As a result, it could be suggested there are more complex mechanisms involved in gender differences as oppose to one specific gender is more at risk overall. A possible explanation for the finding that males are more likely to be a victim of physical bullying could be as a result of males having higher levels of testosterone which in turn, has been found to lead to more aggression (Olweus et al., 1980). In particular, levels of testosterone have been found to be heightened during adolescence (Schaal et al., 1996). Furthermore, it has been suggested that males are more likely to bully other males (Farrington, 1993). Therefore takem together, this provides a plausible explanation for our finding as male's levels of aggression are heightened due to their increased levels of testosterone and as a result they take their aggression out on other males.

It is also frequently noted that females are more likely to be bullied indirectly when compared to males. This could be explained by the belief that females are the gentler sex and therefore are discouraged to use physical violence so use other methods to express their anger. Whereas males on the other hand, are encouraged to use violence (Turkel, 2007). In addition to this, Farrington (1993) noted that females have a tendency to be bullied by both males and females. As a result, the majority of females who bully will direct their aggression to other females. Furthermore, because they bully indirectly it will be females

who experience an increase in indirect bullying. In addition to this, it is not socially accepted for males to use physical violence on a female, therefore if males were to bully a female it could be suggested they will also use indirect aggression. This notion could further be supported by our results which found there were no gender differences in verbal bullying. As a result, suggesting that if boys did bully a female they were using indirect aggression in this sample.

A further explanation for females having an increased likelihood of being bullied indirectly is the idea that indirect aggression is highly dependent on levels of maturity. It has been suggested that in order to be able to bully indirectly clear levels of social and verbal skills are required. Furthermore, females have been found to mature verbally faster than males (Maccoby and Jacklin, 1974). Therefore, females are able to learn how to bully in this way at a much earlier stage in life when compared to males (Bjorkqvist et al., 1994). This has additionally been supported by Besag (2006) who also stated that females use their words to manipulate and control their peers and provides a further explanation as to why females are more likely to bully indirectly.

In terms of the gender different in cyberbullying, this again may be due to the fact that females have to find other ways to bully instead of using physical violence (Turkel, 2007). Furthermore, this finding supports the idea that females prefer to use electronic communications in order to bully for example using chat rooms (Thorp, 2004 as cited in Li, 2006). Not only has it already been found that females prefer to bully others online, it has also been found that females use social media more than males. For example, in a review of social media surveys, Hillsberg (2013) revealed that there are more females than males on social media sites such as Facebook, Twitter and Instagram. In addition to this, females have been found to check their social media accounts more often than males on a daily basis (30% compared to 26%). Moreover, females are more likely to use their smartphones to access these sites. Consequently, this dominance of females on social media may account for the reason that females are more likely to be cyberbullied. This is in fact also

true for our data set with females (2.52) demonstrating they access social media sites more often when compared to males (2.28).

Following this, there were no gender differences in verbal bullying found in the current investigation. A plausible explanation for this could in fact be due to the increase of smartphone use and cyberbullying that is seen in children and adolescents today. It could be that the traditional ways of verbal bullying have now been replaced with cyberbullying and the offline bully is becoming the online bully, as previously stated by Smith (2011b).

Taken together, the results of this investigation therefore clearly demonstrates there are in fact salient risk factors for victimisation (Craig et al, 2001; Fisher et al., 1998; Volk et al., 2006). Specifically, it is internalising behaviours (Kochenderfer-Ladd & Wardrop, 2001) such as social anxiety and low self-esteem exhibited by victims of bullying which puts them at risk. Furthermore, if an individual displays these behaviours and also has weak relationships with their peers, this also increases the risk of victimisation. As a consequence, these behaviours make them seem weak and powerless and makes them an easy target for the perpetrator (Olweus, 1993).

Not only that, due to the bidirectional relationship found with social anxiety and low self-esteem, suggests there is a “cycle” involved in victimisation. This is the notion that not only does being a victim of bullying result in a lowered self-esteem and inflict social anxiety, it is these behaviours that also encourage more bullying to the individual. This phenomenon can be explained by transactional models noted in psychological research (Sameroff, 1987). This concept suggests that the processes in which occur in an individual interact and continuously influence social psychological process (Boulton, Smith & Cowie, 2010). Therefore in terms of the current research, it is social anxiety, low self-esteem and victimisation that all work together in a way to influence one another to form a “cycle”.

Implications

From this research, it is evident that intervention strategies are needed in schools to combat bullying and to raise awareness to both schools and its pupils of its consequences and ways to prevent it, due to the significant risk the school environment poses. As a result of this, it has therefore been suggested that intervention strategies that focus on changing the environment of the school have been more successful (Orpinas et al., 2003). This is as opposed to trying to attempt to change an individual's level of aggression, which have been found to be less successful (Mytton et al., 2002).

Prevention strategies that have been found to be successful in reducing levels of victimisation are those that promote a positive school environment (Hazler, 1996). School environmental risk factors have also been found to be teacher's inability to manage a class, inadequate teaching, lack of discipline and low expectations of their students (Sugai and Horner, 2002). Therefore, strategies should revolve around teachers being made aware of the extent of bullying that occurs in schools and classrooms. In addition, being taught the necessary skills that will allow them to effectively manage children's behaviour in the classroom. Furthermore, these strategies require teachers to inform students of conflict resolution skills and make students aware of the consequences that bullying others will have in the school environment (Olweus, 1978). As an example of the success of implementing such programs in schools, after two years, Olweus (1993) concluded that the levels of bullying decreased by 50%.

In addition to this, the current investigation shows the devastating impact bullying can have on children and adolescent's mental health and well-being. The findings shown that low self-esteem, social anxiety and low friendship quality all uniquely predict victimisation. Our study still revealed a high amount of variance for social anxiety (10%) as a predictor of victimisation even after statistically controlling for the effects of self-esteem and friendship quality. This result has yet to be found by other researchers and therefore has important practical implications. It could be perhaps that it is not just high levels of social anxiety that

increase the risk of victimisation, instead, even moderate or low levels pose a risk for victimisation. As a result, social anxiety should be the main focus area in intervention strategies for the victims. Consequently, it is imperative for schools to employ strategies to attempt to combat this issue. In doing so, by increasing an individual's self-esteem, creating strategies to promote the importance friendships and in particular, reducing one's levels of social anxiety will enhance a child's psychological well-being which will have benefits alone. In addition to this, it may also reduce the risk of being victimised by making an individual appear to be less of a target to the perpetrators in an attempt to break the vicious cycle found in this study.

An example of an intervention strategy to be employed in the schools used in this study and other schools alike that has been found to be successful in reducing victimisation could be "The Cool Kids Program" (Berry & Hunt, 2009). This is a cognitive behavioural strategy that was firstly created for anxious adolescent boys who experienced bullying at school. It aimed to focus on the factors that are associated with an increased risk for being victimised such as anxiety and self-esteem. This skills based intervention program was significant in reducing their levels of anxiety and depression and in turn reduced their experiences of bullying.

Similarly, an additional strategy that could also be implemented is the "Take the LEAD" (Domino, 2013) program which has been found to be successful in significantly changing both levels of bullying and reports of victimisation. These are sessions that concentrate on empowering students to face life adversities such as bullying, by enhancing their peer relations, social awareness and their interpersonal communication skills. As a result, this program encourages positive development which may also aid in breaking the victimisation cycle.

Further support for the effectiveness of such intervention programs comes from Merrell et al. (2008). In a meta-analysis, the researchers revealed the effectiveness of strategies in 16 studies which combatted student's self-esteem, peer acceptance and social

competency, rather than bullying behaviours themselves. As a result, these findings show although intervention strategies may not have the desired impact on bullying they are still necessary for improving children and adolescent's well-being and may weaken the victimisation cycle.

Strengths and Limitations

This investigation can be praised for its large sample number; therefore its findings are robust and allow generalisability to the wider population. Moreover, it can further be applauded for its psychometric properties. All tests that were ran demonstrated that each of the scales used in this investigation were valid and reliable. In fact, the Cronbach alpha scores found for the self-esteem scale in this study (.87) exceeded those found by Thomaes et al. (2010) in their original study (.78 and .80). The current research also yielded similar alpha scores found by Reynolds and Richmonds (2000) for the social anxiety scale. Our research noted an alpha score of .85, compared to Reynolds and Richmonds (2000) who reported scores ranging from .78 to .85. As a result, it could be suggested that our results are more reliable when compared to the previous studies mentioned earlier.

Our study can also be praised for its investigation into not only overall gender differences in victimisation but also the specific subtypes. As a result, we have provided an in depth look of the influence gender has on being a victim of bullying. Therefore, indicating gender differences are more complex than just one gender having an overall risk of being a victim of bullying. Moreover, our study can also be applauded for demonstrating the pure influences of social anxiety, self-esteem and friendship quality even after statistical controls were implemented. As a result, suggesting the importance of these variables and provides solid evidence for these variables as risk factors of victimisation. As well as this, the finding of a bidirectional relationship for both social anxiety and self-esteem is novel. Consequently, this suggests an area for future research of these two variables alone to further investigate the mechanisms involved in the cycle of victimisation.

Despite this, the current investigation is not without its limitations. The main limitation of this study is the use of self-report measures, which rely on participants being honest in their responses. This issue is also dependent on the nature of the questionnaire (Hoskin, 2012). This could be an issue in the current study due to the fact that participants might not want to admit they are being bullied as they thought they might somehow get the perpetrator into trouble and instigate more bullying. On the other hand, they may be untruthful as the child would like to gain more attention from their teachers or even genuinely believe they are being bullied, when they aren't. In support of this, one study revealed that a child stated they were being exceedingly victimised by both their peers and also their teachers. However, on further inspection it was revealed that this was in fact not the case (Perry et al., 1988). Therefore, Perry et al. (1988) concluded that researchers should take caution when administrating self-report measures when there are inconsistencies between self-perceptions and the perceptions of others in the participants.

Self-report measures have also been suggested to be influenced by social desirability (Arnold & Feldman, 1981). This is the notion whereby participants respond in a certain way which is not a true reflection of themselves in order to look desirable to the researcher. The self-repot victimisation questionnaire also relied on participants to think back retrospectively of their experiences of bullying for example "How many times in the past year has someone hit or kicked you". These types of questions may be unreliable since their experiences of bulling may be misinterpreted or their memories may be distorted (Himmelweit et al., 1978), as a result of human memory worsening over time (Menard ,1991).

Furthermore, although Likert Scales are the most commonly used response formats for scales (Oppenheim, 2000), they have been found to be problematic as the information collected is limited, as participants are forced to choose a response (Neibecker, 1984). As a result, an idea for future research could be to conduct interviews which have previously been used to identify not only incidences of bulling, but also their effect on children's well-being

(Crothers & Levinson, 2004). This type of assessment of bullying therefore allows individuals to open up about their experiences of bullying and will allow then to discuss matters that may not be able to be accessed with self-report measures (Glover et al., 2000).

This study also used a cross sectional design and therefore, we cannot identify time related change (Bergh, 1995). Furthermore, although this study revealed that not only does victimisation lower self-esteem and enhance social anxiety, but also having low self-esteem and being socially anxious is a risk factor of becoming a victim of bullying. Therefore, it is unsure if bullying decreases self-esteem further or heighten an individual's anxiousness or these levels of psychological distress were present before the victimisation took place. Thus, an additional suggestion for future research would be to conduct a longitudinal piece of research to investigate the long-term effects of the negative cycle of low self-esteem, social anxiety and victimisation. In doing so will also give a clearer picture of the effect of victimisation on self-esteem and social anxiety. If over time it is revealed that self-esteem is lowered and social anxiety is increased even further, it can provide substantial evidence of the detrimental effect of victimisation.

Conclusion

In sum, the aim of the study was to investigate if there were any risk factors or negative psychological outcomes as a result of victimisation. Furthermore, if these causes and consequences interacted with one another in a bidirectional relationship. It was concluded that victimisation produced lower self-esteem and increased levels of social anxiety in the children and adolescents in our sample. Moreover, that low self-esteem, social anxiety and having low-qualityfriendships were also found to be predict victimisation. Therefore, implying there is a "vicious cycle" involved in being a victim of bullying. However, having high-quality friendships were not found to be a protective factor against victimisation and that having a high-quality friendships did not decrease the risk of being victimised. Gender differences in victimisation were also explored and although no overall sex differences were found, being a female increased the risk of being bullied indirectly and

online. Whereas on the other hand, males were more at risk of physical bullying. Therefore, the current investigation has important implications and demonstrates the necessity of intervention strategies that surround making individuals less anxious and boosting an individual's self-esteem. This will not only help their well-being, but in turn will also reduce the risk of being bullied.

References

Acquah, E.O., Topalli, P., Wilson, M.L., Junttila, N., & Niemi, P.M. (2016). Adolescent loneliness and social anxiety as predictors of bullying victimisation. *International Journal of Adolescence and Youth, 21, 320-331.*

Aloba, O., Olabisi, O., & Aloba, T. (2016). The 10-item connor–davidson resilience scale factorial structure, reliability, validity, and correlates among student nurses in southwestern nigeria. *American Psychiatric Nurses Association, 22*(1), 43-51.

Andersen, L.P., Labriola, M., Andersen J.H., Lund, T., & Hansen, C.D. (2015). Bullied at school, bullied at work: a prospective study. *BMC Psychology, 3*(35), 10.1186/s40359-015-0092-1.

Antúnez, J.M., Navarro, J.F., & Adan, A. (2015). Circadian typology is related to resilience and optimism in healthy adults. *Chronobiology International, 32,* 4, 524-530.

Arnold, H.J., & Feldman, D.C. (1981). Social desirabilty response bias in self-report choice situations. *Academy of Managment Journal, 24,* 377-385.

Baldry, A. C., & Farrington, D. P. (1999). Types of bullying among Italian school children. *Journal of Adolescence, 22*, 423-426.

Baldry, A.C. (2004). The impact of direct and indirect bullying on the mental and physical health of Italian youngsters. *Aggressive Behaviour, 30*(5), 343-355.

Batsche, G. M. (1997). Bullying. In G. C. Bear, K. M. Minke & A. Thomas (Eds.), *Children's needs II: development, problems and alternatives* (pp. 171-179). Bethesda, MD: National Association of School Psychologists.

Batsche, G. M., & Knoff, H. M. (1994). Bullies and their victims: understanding a pervasive problem in the schools. *School Psychology Review, 23*, 165-174.

Beale, A.V. (2001). Bullybusters: Using drama to empower students to take a stand against bullying behaviour. *Professional School Counseling, 4*, 300-306.

Bergh, D. D. (1995). Problems with repeated measures analysis: demonstration with a study of the diversification and performance relationship. *Academy of Management Journal, 38*(6), 1692-1708.

Berry, K., & Hunt, C. J. (2009). Evaluation of an intervention program for anxious adolescent boys who are bullied at school. *Journal of Adolescent Health, 45*, 376-382.

Besag, V.E. (2006). *Understanding girls' friendships, fights and feuds: a practical approach to girls' bullying.* Maidenhead, Berkshire: Open University Press.

Bjdrkqvist, K., Osterman,K., & Lagerspetz, K.M.J. (1994). Sex differences in covert aggression among adults. *Aggressive Behaviour, 20,* 27-33.

Bjorkqvist, K., Ekman, K., & Lagerspatz, K. (1992). Bullies and victims: their ego picture, ideal ego picture and normative ego picture. *Scandinavian Journal of Psychiatry, 23*, 307-313.

Rigby, K., & Slee, P. (1993). Dimensions of interpersonal relation among Australian children and implications for psychological well-being. *Journal of Social Psychology, 133*, 33-42.

Bjorkqvist, K., Osterman, K., Kaukiainen, A. (1992). The development of direct and indirect aggressive strategies in males and females. In K. Bjorkqvist, & P. Niemela (Eds.), *Of mice and women: aspects of female aggression* (pp. 51–64). New York: Academic.

Bland, J., & Altman, D, G. (1997). Statistics notes: cronbach's alpha. *British Medical Journal*, *314*(275), 572.

Bollmer, J.M., Milich, R., Harris, M.J., & Maras, M.A. (2005). A friend in need: the role of friendship quality as a protective factor in peer victimization and bullying. *Journal of Interpersonal Violence, 20*(6), 701-712.

Bonnano, R. A., & Hymel, S. (2010). Investigating why some victims of bullying are at greater risk for suicidal ideation. *Merrill-Palmer Quarterly, 56*, 420-440.

Boulton, M. J., & Underwood, K. (1992). Bully/victim problems among middle school children. *British Journal of Educational Psychology, 62*, 63-87.

Boulton, M.J., & Underwood, K. (1992). Bully/victim problems among middle school children. *Educational Psychology, 62*(1), 73-87.

Boulton, M.J., Smith, P.K. & Cowie, H. (2010). Short-term longitudinal relationships between children's peer victimization/bullying experiences and self-perceptions. *School Psychology International, 31*(3), 296-311.

Boulton, M.J., Trueman, M., & Murray, L. (2008). Associations between peer victimization, fear of future victimization and disrupted concentration on class work among junior school pupils. *British Journal of Educational Psychology, 78*, 473-489.

Boulton, M.J., Trueman, M., Chau, C., Whitehand, C., & Amatya, K. (1999). Concurrent and longitudinal links between friendship and peer victimization: implications for befriending interventions. Journal of Adolescence, 22(4), 461-466.

Boyle, Julie, (2003). Bullying and self-esteem. *Theses and Dissertations*. 1263. http://rdw.rowan.edu/etd/1263

British Psychological Society. (2009). *Code of Ethics and Conduct; Guidance published by the Ethics Committee of the British Psychological Society.* Retrieved July 13, 2017, From http://www.bps.org.uk/system/files/Public%20files/aa%20Standard%20Docs/inf94_c ode_web_ethics_conduct.pdf

Brown, D. W., Riley, L., Butchart, A., & Kann, L. (2008). Bullying among youth from eight African countries and associations with adverse health behaviors. *Pediatric Health, 2*, 289-299.

Buchanan, G. M. & Seligman, M. E. P. (Eds) (1995). *Explanatory style*. Hillsdale, NJ: Lawrence Erlbaum.

Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the friendship qualities scale. *Journal of Social and Personal Relationships, 11*, 471-484.

Bukowski, W.M, Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre-and early adolescence: the development and psychometric properties of the friendship qualities scale. *Journal of Social and Personal Relationships, 11,* 471-484.

Carrera Fernández, M.V., Fernández, M.L., Castro, Y.R., Failde Garrido, J.M., & Otero, M.C. (2013). Bullying in spanish secondary schools: Gender-based differences. Spanish Journal of Psychology, 16, 1-14.

Castaneda, A., McCandless, B.R., & Palermo, D.S. (1956). The children's form of the manifest anxiety scale. *Child Development, 27*, 317-326.

Cattell, R. B. (1966). The scree test for the number of factors*. Multivariate Behavioral Research, 1*, 245-276.

Charach, A., & Pepler, D., & Ziegler, S. (1995). Bullying at school. a Canadian perspective. *Educational Canada, 35*, 12-18.

Coggan, C., Bennett, S., Hooper, R., & Dickinson, P. (2012). Association between bullying and mental health status in new zealand adolescents. *International Journal of Mental Health Promotion, 5*(1), 16-22.

Connor K. M., Davidson J. R. T. (2003). Development of a new resilience scale: the connor-davidson resilience scale (cdrisc). *Depression and Anxiety, 18*, 76-82.

Craig, W.M., Pepler, D.J., & Atlas, R. (2000). Observations of bullying in the playground and in the classroom. *School Psychology International, 21*(1), 22-36.

Craig, W.M., Pepler, D.J., Connolly, J., & Henderson, K. (2001). Towards a developmental perspective on victimization. In J. Juvonen, S. Graham (Eds). *Peer harassment in school: the plight of the vulnerable and victimized* (pp. 242-262). Calif: Guilford Press.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.

Crothers, L.M. & Levinson, E.M. (2004). Assessment of bullying: a review of methods and instruments. *Journal of Counselling and Development, 82*(4), 496-503.

Domino, M (2013). Measuring the impact of an alternative approach to school bullying. *The Journal of School Health, 83*(6), 430-437.

Egan, S.K., & Perry, D.G (1998). Does low self-regard invite victimization? *Developmental Psychology, 34*(2), 299-309.

Elliot, M., Fairweather, I., Olsen, W., Pampaka, M. (2016). *A dictionary of social research methods.* Oxford: Oxford University Press.

Erdur-Baker, O. (2010). Cyberbullying and its correlation to traditional bullying, gender and frequent and risky usage of internet mediated communication tools. *New Media and Society, 12*(1), 109-125.

Eslea, M. & Mukhtar, K. (2000). Bullying and racism among asian schoolchildren in britain. *Educational Research 42*(2), 207-217.

Eslea, M., Menesini, E., Morita, Y., O'Moore, M., Mora-Merchan, J. A., Pereira, B., & Smith, P. K. (2003). Friendship and loneliness among bullies and victims: data from seven countries. *Aggressive Behavior, 30*, 71-80.

Eslea, M., Menesini, M., Morita, Y., O'Moore, M., Mora-Mercha´n, J.A., Pereira, B., & Smith, P.K. (2003). Friendship and loneliness among bullies and victims: data from seven countries. *Aggressive Behaviour, 30*, 71-83.

Farrington, D.P. (1993). Understanding and preventing bullying. *Crime and Justice, 17*, 381-458.

Fekkes, M., Pijpers, F.I.M., Fredriks, A., Vogels, T., & Verloove-Vanhorick, S.P. (2006). Do bullied children get ill, or do ill children get bullied? A prospective cohort study on the relationship between bullying and health-related symptoms. *Paediatrics, 117*(5), 1568-1574.

Felix, E.D., & McMahon, S.D. (2006). Gender and multiple forms of peer victimisation: how do they influence adolescent psychosocial adjustment? *Violence and Victims, 21*(6), 707-724.

Field, A. (2009). *Discovering statistics using spss* (3rd ed.). Sage:London.

Fisher, B. S., Sloan, J. J., Cullen, F. T., & Lu, C. (1998). Crime in the ivory tower: the level and sources of student victimization. *Criminology, 36*, 671-710.

Fu, K.W., Chan, C.H., & Ip, P. (2014). Exploring the relationship between cyberbullying and unnatural child death: an ecological study of twenty-four European countries. *BMC Pediatrics*,14(195), https://doi.org/10.1186/1471-2431-14-195.

Gerard, A. B., & Reynolds, C. R. (1999). *Characteristics and applications of the Revised Children's Manifest Anxiety Scale (RCMAS)*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Glew, G., Rivara, E, & Feudmer, C. (2000). Bullying: children hurting children. *Pediatrics in Review, 21*,183-190.

Glover, D., Gough, G., Johnson, M., & Cartwright, N. (2000). Bullying in 25 secondary schools: incidence, impact and intervention. *Educational Research, 42*(2), 141-156.

Hartup, W. W. (1993), Adolescents and their friends. *New Directions for Child and Adolescent Development*, *60*, 3–22.

Hazler, R. (1996). *Breaking the cycle of violence: Interventions for bullying and victimization.* Washington, DC: Accelerated Development, Taylor & Francis.

Heiman, T., & Olenik-Shemesh, D. (2015). Cyberbullying experience and gender differences among adolescents in different educational settings. *Journal of Learning Disabilities, 48*(2), 146-155.

Hillsberg, A. (2013). Retrieved, 30 August, 2017, From https://reviews.financesonline.com/most-popular-social-media-sites-review

Himmelweit, H., Biberian, M., Stockdale, J. (1978). Memory for past vote: implications of a study of bias in recall. *British Journal of Political Science, 8*(3), 365-375.

Hodges, E. V. E., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: protection against an escalating cycle of peer victimization. *Developmental Psychology, 75*, 94-101.

Hodges, E.V.E., & Perry, D.G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology, 76*(4), 677-685.

Hodges, E.V.E., Malone, M.J., & Perr, D.G. (1997). Individual risk and social risk as interacting determinants of victimization in the peer group. *Developmental Psychology, 33*(6), 1032-1039.

Hong, J.S., & Espelage D.L. (2012). A review of research on bullying and peer victimization in school: an ecological system analysis. *Aggressive and Violent Behavior, 17*, 311-322.

Hoover, J.H., Ronald, O., & Richard, J. (1992). ‘‘Bullying: perceptions of adolescent victims in the midwestern usa. *School Psychology International 13*, 5-16.

Hoskin, R. (2012). Retrieved, 10 September, 2017, From http://www.sciencebrainwaves.com/the-dangers-of-self-report/

Jeffrey, L.R., DeMond, M., & Margaret, L. (2001). Middle school bullying as a context for the development of passive observers to the victimization of others. *Journal of Emotional Abuse, 2,* 143-156.

Kaiser, H.F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141-151.

Kinderman, P., & Bentall, R.P. (1996). A new measure of causal locus: the internal, personal and situational attributions questionnaire*. Personality and Individual Differences, 20*, 261-264.

Kochenderfer, B.J., & Ladd, G.W. (1997). Victimized children's responses to peers' aggression: behaviors associated with reduced versus continued victimization. *Development and Psychopathology, 9*(1), 59-73.

Kochenderfer-Ladd, B., & Wardrop, J. L. (2001). Chronicity and instability of children's peer victimization experiences as predictors of loneliness and social satisfaction trajectories. Child Development, 72, 134-151.

La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology, 34*(1), 49-61.

Lagerspetz, K.M.J., Bjorkqvist, K., & Peltonen,T. (1988). Is indirect aggression typical of females? gender differences in aggressiveness in 11- to 12- year-old children. *Aggressive Behaviour, 14*, 403-414.

Li, Q (2007). Bullying in the new playground: research into cyberbullying and cyber victimisation. *Australasian Journal of Educational Technology, 23*(4), 435-454.

Li, Q. (2006). Cyberbullying in schools: a research of gender differences. *School Psychology International, 27*(2), 157-170.

Li, Q. (2007). New bottle but old Wine: a research of cyberbullying in schools. *Computers in Human Behavior, 23*(4)1777–1791.

Liang, H., Flisher, A.J., & Lombard, C.J. (2007). Bullying, violence, and risk behavior in south african school students*, Child Abuse and Neglect, 31*, 161-171.

Lopes, V., & Martins, M. (2011). Validação factorial da escala de resiliência de connor-davidson (cd-risc-10) para brasilieiros. *Revista Psicologia: Organizações e Trabalto*, *11,* 36-50.

Maccoby, E.E., & Jacklin, C.N. (1974): *The psychology of sex differences*. Stanford, California: Stanford Univenity Press.

Malcom, K.T., Jensen-Campbell, L.A., Rex-Lear, M., & Waldrip, A.M. (2006). Divided we fall: children's friendships and peer victimization. *Journal of Social and Personal Relationships, 23*(5), 721-740.

Matsui, T., Takashi, K., Tzuzuki, Y., & Onglatco, M. (1996). Long-term outcomes of early victimization by peers among Japanese male university students: model of a vicious cycle. *Psychological Reports, 79*, 711-720.

Menard, S. (1991). *Longnitudinal research*. Sage Univeristy series on Quantitative Applications in the Social Sciences, CA: Sage Publications.

Merrell, K.M., Gueldner, B.A., Ross, S.W., & Isava, D.M. (2008). How effective are school bullying intervention programs? A meta-analysis of intervention research. *School Psychology Quarterly,* 23(1), 26-42.

Mulder, S.F., & van Aken, M.A.G. (2014). Socially anxious children at risk for victimization: the role of personality. *Social Development, 23*(4), 719-733.

Mytton, J.A., DiGuiseppi, C., Gough, D.A., Taylor, R.S., & Logan, S. (2002). School-based violence prevention programs systematic review of secondary prevention trials. *Archives of Pediatric Adolescent Medicine, 56*(8), 752-762.

Nassem, E., & Harris, A. (2015). Why do children bully? *School Leadership Today, 6*(5), 68-73.

Navarro, R., Yubero, S., Larrañaga, E., Martínez, V. (2012). Children's cyberbullying victimization: associations with social anxiety and social competence in a Spanish sample. *Child Indicators Research, 5*(2), 281-295.

Neibecker, B. (1984). The validity of computer-controlled magnitude scaling to measure emotional impact of stimuli, *Journal of Marketing Research, 21*(3), 325-331.

Newman-Carlson, D., & Horne, A.M. (2004). Bully busters:a psychoeducational Intervention for reducing bullying behavior in middle school students. *Journal of Counseling & Development, 82*(3), 259-267.

Nunnaly, J. (1978). *Psychometric theory (2nd ed)*. New York: McGraw-Hill.

O'Moore, M. & Kirkham, C. (2001). Self-esteem and its relationship to bullying behaviour. *Aggressive Behaviour, 27*(4), 269-283.

Olweus D. (1993). *Bullying at school*. Oxford and Cambridge (MA): Blackwell Publisher.

Olweus, D. (1978). *Aggression in the schools: bullies and whipping boys.* Washington, DC: Hemisphere.

Olweus, D. (1993). *Bullying at school: What we know and what we can do.* Oxford, England: Basil Blackwell.

Olweus, D., Mattson, A., Scallning, D., & Loow, H. (1980). Aggression, physical and personality dimensions in normal adolescent males. *Psychosomatic Medicine, 42,* 253-269.

Oppenheim, A. N. (2000). *Questionnaire design, interviewing and attitude measurement (2nd ed).* London: Bloomsbury Academic.

Orpinas, P., Horne, A.M., & Staniszewski, D. (2003). School bullying: changing the problem by changing the school. *School Psychology Review, 32*(3), 431-444.

Owens, L.D. (1996). Sticks and stones and sugar and spice: girls' and boys' aggression in schools*. Australian Journal of Guidance and Counselling, 6*, 45-55.

Pabian, S., & Vanderbosch, H. (2016). An investigation of short-term longitudinal associations between social anxiety and victimization and perpetration of traditional bullying and cyberbullying. *Journal of Youth and Adolescence, 45*(2), 328-339.

Parker, J.G., & Asher, S.R. (1993). Friendship and friendship quality in middle childhood: links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4), 611-621.

Patchin, J.W, & Hinduja, S. (2010). Cyberbullying and self-esteem, Journal of School Health, 80, 614-621.

Pelligrini, A. D., & Bartini, M. (2000). A longitudinal study of bullying, victimization, and peer affiliation during the transition from primary school to middle school. *American Educational Research Journal, 37*(3), 699-725.

Pepler, D.J., Craig, W.M., Ziegler, S., & Charach, A. (1994). An evaluation of an anti-bullying intervention in toronto schools. *Canadian Journal of Community Mental Health, 13,* 95-110.

Perry, D.G., Kusel, S.J., & Perry, L.C. (1988). Victims of peer aggression. *Developmental Psychology, 24, 807-814.*

Reynolds, C. R. (1980). Concurrent validity of what i think and feel: the revised children's manifest anxiety scale. *Journal of Consulting and Clinical Psychology, 48*, 774-775.

Reynolds, C. R., & Richmond, B. O. (2000). *Revised Children's Manifest Anxiety Scale: Manual*. Los Angeles, CA: Western Psychological Services.

Reynolds, C.R., and Richmond, B.O. (1985). *Revised Children's Manifest Anxiety Scale. RCMAS Manual*. Los Angeles: Western Psychological Services.

Rigby, K. (1996). *Bullying in schools: And what to do about it.* London: Jessica Kingsley Publishers.

Rigby, K. (2003). Consequences of Bullying in Schools. *Canadian Journal of Psychiatry, 48*, 583-590.

Rigby, K., & Cox, I.K. (1996). The contributions of bullying and low self-esteem to acts of delinquency among Australian teenagers. *Personality and Individual Differences, 21*(4), 609-612.

Rivers, I., & Smith, P.K. (1994). Types of bullying behaviour and their correlates. *Aggressive Behavior, 20*, 359-368.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self*. New York, NY: Basic Books.

Rothon, C., Head, J., Klineberg, E., & Stansfeld, S. Can social support protect bullied adolescents from adverse outcomes? a prospective study on the effects of bullying on the educational achievement and mental health of adolescents at secondary schools in east london. *Journal of Adolescence, 34*, 579-588.

Salmivalli, C., Kaukiainen, A., Kaistaniemi, L., & Lagerspetz, K.M. (1999) Self-evaluated self-esteem, peer-evaluated self-esteem, and defensive egotism as predictors of adolescents' participation in bullying situations. *Personality and Social Psychology Bulletin, 25,*1268-1278.

Salmivalli, C., Lappalainen, M., & Lagerspetz, K.M.J. (1998) Stability and change of behaviour in connection with bullying in schools: a two-year follow-up. *Aggressive Behaviour, 24*, 205-218.

Sameroff, A. J. (1987) The social context of development. In N. Eisenberg (Ed.), *Contemporary topics in developmental psychology* (pp273-291). New York: Wiley.

Schaal, B., Tremblay, R.E., Soussignan, R., & Susman, E.J. (1996). Male testosterone linked to high social dominance but low physical aggression in early adolescence. *Journal of American Academy of Child and Adolescent Psychiatry*, *35*(10), 1322-1330.

Scheithauer, H., Hayer, T., Petermann, F., & Jugert, G. (2006). Physical, verbal, and relational forms of bullying among german students: age trends, gender differences, and correlates. *Aggressive Behaviour, 32*(3), 261-275.

Schmidt, M.E., & Bagwell, C.L. (2007). The protective role of friendships in overtly and relationally victimized boys and girls. *Merrill-Palmer Quarterly, 53*(3), 439-460.

Scholte, R.H., Engels, R.C., Overbeek, G., de Kemp, R.A., & Haselager, G.J. (2007). Stability in bullying and victimization and its association with social adjustment in childhood and adolescence. *Journal of Abnormal Child Psychology, 35*, 217-228.

Schwartz, D., Dodge, K. A., & Coie, J. D. (1993). The emergence of chronic peer victimization in boys' play groups. *Child Development, 64*,1755-1772.

Sharp, S., Thompson, D., & Arora, T. (2000). How long before it hurts? *School Psychology International, 21*(1), 37-46.

Siegel, R.S., La Greca, A.M., & Harrison, H.M. (2009). Peer victimization and social anxiety in adolescents: prospective and reciprocal relationships. *Journal of Youth Adolescence, 38*(8), 1096-1109.

Slonje, R., & Smith, P.K. (2007). Cyberbullying: another main type of bullying? *Scandinavian Journal of Psychology 49*(2), 147–154.

Smith, P. K. (2011b). Bullying in schools: Thirty years of research. In C. P. Monks, & I. Coyne (Eds.), *Bullying in different contexts* (pp. 36-60). Cambridge: Cambridge University Press.

Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippet, N. (2008). Cyberbullying: its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*, 376-385.

Smith, P. K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (1999). *The nature of school bullying: a cross-national perspective*. London, UK: Routledge.

Smith, P.K., & Brian, P. (2000). Bullying in schools: lessons from two decades of research, *Aggressive Behaviour, 26*, 1-9.

Smith, P.K., & Sharp, S. (1994). *School bullying: insights and perspectives*. London: Routledge.

Smith, P.K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*(4), 376-385.

Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences (4th ed.).* Hillsdale, NS: Erlbaum.

Storch, E. A., & Masia-Warner, C. (2004). The relationship of peer victimization to social anxiety and loneliness in adolescent females. *Journal of Adolescence, 27*, 351-362.

Storch, E.A., Maisa-Warner, C., Crisp, H., & Klein, R.G. (2005). Peer victimization and social anxiety in adolescence: a prospective study. *Aggressive Behaviour, 31*(5), 437-452.

Streiner, D. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. *Journal of personality assessment*, 80,99-103

Sugai, G., & Horner, R.H. (2002). The evolution of discipline practices: school-wide positive behavior supports. *Child & Family Behavior Therapy, 24*(1-2), 23-50.

Tavakol, M., & Dennick, R. (2011). Making sense of cronbach's alpha*, International Journal of Medical Education, 2*, 53-55.

Thomaes, S., Reijntjes, A., de Castro, B. O., Bushman, B. J.,Poorthuis, A., & Telch, M. J. (2010). I like me if you like me: on the interpersonal modulation and regulation of preadolescents' state self-esteem. *Child Development, 81*, 811-825.

Tolan, P.H. (2004). International trends in bullying and children's health: giving them due consideration. *Archives of Pediatrics and Adolescent Medicine, 158*, 831-832.

Turkel, A.R. (2007). Sugar and spice and puppy dog's tails: the psychodynamics of bullying. *Journal of the American Academy of Psychoanalysts and Dynamic Psychiatry, 35*(2), 243-258.

United Nations Population Fund, (1999). *The state of world population*. New York, NY: United Nations.

van der Wal, M.F., de Wit, C.A.M., & Hirasing, R.A. (2003). Psychosocial health among young victims and offenders of direct and indirect bullying. *Pediatrics, 111*(6), 1312-1317.

Varela, E., & Biggs, B.K. (2006). Reliability and validity of the revised children's manifest anxiety scale (RCMAS) across samples of mexican, mexican american, and european american children: a preliminary investigation Table of means, standard deviations, and correlations of the RCMAS indicators are available from the first author upon request. *Anxiety, Stress and Coping, 19*(1), 67-80.

Volk, A., Craig, W., Boyce, W., & King, M. (2006). Adolescent risk correlates of bullying and different types of victimization. *International Journal of Adolescence Mental Health, 18*(4), 375-386.

Völlink, T., Bolman, C.A.W., Dehue, F., & Jacobs, N. (2013). Coping with cyberbullying: differences between victims, bully-victims and children not involved in bullying. *Journal of Community and Applied Social Psychology*, *23*, 7-24.

Whitney, I. & Smith, P.K. (1993). A survey of the nature and extent of bullying in primary and secondary schools. *Educational Research, 35*, 34-39.

Willard, N. (2004). *Cyberbullying and cyberthreats*. Retrieved July 28, 2017, From http://bcloud.marinschools.org/SafeSchools/Documents/BP-CyberBandT.pdf

You, J., & Bellmore, A. (2012). Relational peer victimisation and psychosocial adjustment: the mediating role of best friendship qualities. *Personal Relationships, 19,* 340-353.

Young, E., Boye, A., & Nelson, D. (2006). Relational aggression: understanding, identifying, and responding in schools. *Psychology in the Schools, 43*(3), 297-312.

Zwick, W. R., & Velicer, W. F. (1982). Factors influencing four rules for determining the number of components to retain. *Multivariate Behavioral Research, 17*, 253-269.

Appendices

Appendix A: Ethics Form and Ethical Amendment Form

Staff / Office Use Only ***DOPEC NUMBER: _____***

Umbrella project DOPEC number (staff)_____

APPLICANT SURNAME: Breen

Please complete all questions by underlining the correct response to facilitate correct processing

APPLICANT: **UG** **PGT** **PGR** **STAFF**

REVIEW PROCESS: **Accelerated / Full**

APPLICATION STATUS: **NEW APPLICATION, MAJOR AMENDMENT, RESUBMISSION**

APPLICATION FOR: **DISSERTATION, TEACHING, RESEARCH & PUBLICATION**

ATTTENDENCE AT HEALTH & SAFETY BRIEFING: **YES / NO / NA**

INCLUSION OF RISK ASSESSMENT FORM: **YES / NO / NA**

NOTES ON THE ROLE AND FUNCTION OF THE DEPARTMENT OF PSYCHOLOGY ETHICS COMMITTEE.

- *All decisions of the committee are based on the application form and reviewers comments ONLY. Forms should be as detailed and clear as possible. Verbal discussions are not considered as part of the application or review process.*
- *The review process strictly adheres to the University of Chester Research Governance Handbook and the BPS Code of Ethics.*
- *The decision of the committee is final. If you are a UG, PGT or PGR student you should discuss the decision of the committee with your supervisor. If you are a member of staff you may contact the chair of the committee for further clarification.*

Before completing the form researchers are expected to familiarise themselves with the regulatory codes and codes of conduct and ethics relevant to their areas of research, including those of relevant professional organisations and ensure that research which they propose is designed to comply with such codes.

Department of Psychology Ethical Approval for Research: Procedural Guidelines.

University of Chester Research Governance Handbook

http://ganymede2.chester.ac.uk/view.php?title_id=522471

BPS Code of Ethics

http://www.bps.org.uk/system/files/Public%20files/bps_code_of_ethics_2009.pdf

BPS Code of Human Research Ethics

http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf

BPS Guidelines for Internet-mediated Research

http://www.bps.org.uk/system/files/Public%20files/inf206-guidelines-for-internet-mediated-research.pdf

BPS Research Guidelines and Policy Documents

http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli

Any queries email: psychology_ethics@chester.ac.uk

Notes: Students to indicate where information is found, supervisor to confirm by ticking green column	Supervisor confirmation	Information. sheet	Letter	Email	Email info. page	Consent Form	PowerPoint	N/A
Brief details about the purpose of the study	☒	☒	☐	☐	☐	☐	☐	☐
Contact details for further information	☒	☒	☐	☐	☐	☐	☐	☐
Explanation of how and why participant has been chosen	☒	☒	☐	☐	☐	☐	☐	☐
Notification that materials/interviews are not diagnostic tools/therapy or used for staff review/development purposes	☒	☒	☐	☐	☐	☐	☐	☐
Explanation participation is voluntary	☒	☒	☐	☐	☐	☒	☐	☐
Details of any incentives or compensation	☒	☐	☐	☐	☐	☐	☐	☒
Details of how consent will be obtained	☒	☒	☐	☐	☐	☒	☐	☐
If research is observational, consent to being observed	☒	☐	☐	☐	☐	☐	☐	☒
Details of procedure so participants are informed about what to expect	☒	☒	☐	☐	☐	☐	☐	☐
Details of time commitments expected	☒	☒	☐	☐	☐	☐	☐	☐
Details of any stimuli used	☒	☒	☐	☐	☐	☐	☐	☐
Explanation of right to withdraw and right to withdraw procedure	☒	☒	☐	☐	☐	☐	☐	☐
Option for omitting questions participant does not wish to answer	☒	☒	☐	☐	☐	☐	☐	☐

Procedure regarding partially completed questionnaires or interviews	☒	☒	☐	☐	☐	☐	☐	☐
With interviews, information regarding time limit for withdrawal	☒	☒	☐	☐	☐	☐	☐	☐
Details of any advantages and benefits of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Details of any disadvantages and risks of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Information that data will be treated with full confidentiality and that, if published, those data will not be identifiable as theirs	☒	☒	☐	☐	☐	☐	☐	☐
Debriefing details	☒	☒	☐	☐	☐	☐	☐	☐
Dissemination information	☒	☒	☐	☐	☐	☐	☐	☐
Further information (relevant literature; support networks etc)	☒	☒	☐	☐	☐	☐	☐	☐

CHECK LIST.

Please complete the form below indicating attached materials. Prior to submission supervisors must confirm that they have reviewed the application by completing the supervisors column.

Supervisor Signature: ***Mike Boulton*** ***Date: 6/4/17***

DEPARTMENT OF PSYCHOLOGY APPLICATION TO DEPARTMENTAL ETHICS COMMITTEE

University of Chester

IN COMPLETING THE FORM UG & PGT STUDENTS PLEASE REFER TO YOUR HANDBOOK

Question 1: Working title of the study

Notes: The title should be a single sentence

Social relationships and wellbeing in high school students

Question 2: Applicant, name and contact details.

Notes: The primary applicant is the name of the person who has overall responsibility for the study. Include their appointment or position held and their qualifications. For studies where students and/or research assistants will undertake the research, the primary applicant is the student (UG, PGT, PGR) and supervisor is the co-applicant.

Cara Breen

Postgraduate Student (MSc Family and Child Psychology)

Bsc (Hons) Psychology Degree 2:1

1620926@chester.ac.uk

Question 3: Co-applicants

Notes: List the names of all researchers involved in the study. Include their appointment or position held and their qualifications.

Mike Boulton – Professor, Phd

R.Kirkham – co researcher, Psychology Degree

H.Simpson – co researcher, Psychology Degree

M.Burns – co researcher, Psychology Degree

B.Pritchard – co researcher, Psychology Degree

J.Santos – co researcher, Psychology Degree

Question 4: What are the start and end dates of the study?

Notes: If exact dates are unavailable, explain why and give approximate dates.

04/2017 - 12/2017

Question 5: Is this project subject to external funding?

Notes: Please provide details of the funding body, grant application and PI.

No

Question 6: Briefly describe the purpose and rationale of the research

Notes: In writing the rationale make sure that the research proposed is grounded in relevant literature, and the hypotheses emerge from recent research and are logically structured.

PGR / Staff if this application is for a funded project please attach any detailed research proposals as appropriate.

Maximum word length (300 words)

Peer Victimization has been characterized as being the recipient of physical or non-physical forms of aggression and harassment by peers (Hirschtritt et al., 2015). This is an extremely common and persistent problem especially in adolescents (Hirschtritt et al., 2015). These physical and verbal attacks are some of the most common found in schools and its effects can often be detrimental for the individual, especially if this victimization is occurring continuously over an extended period of time (Olywells, 1993; Leymann, 1993).

In recent years the increase in Internet use has also caused an increase in Cyberbullying, especially through various social media sites and chat rooms (Vollink et al., 2012). Livingstone et al., (2011) found that 93% of children have access to the Internet at least once a week. 20% of these children also reported to have been a victim of harassment through the Internet. 15-20% of these children also reported having been made to feel uncomfortable or have been threatened through social media.

Bulling and Peer Victimization has been found to have serious negative effects on the individual, including feeling depressed, lonely, insecure, anxious and angry (Baker & Tanrikulu, 2010). It can also have negative effects on the child's development, lower self esteem, increase anxiety and increase suicidal thoughts as well as suicide attempts (Grills & Ollendick, 2002; Smith Madsen & Moody, 1999; Patchin & Hinduja, 2006).

Although the research into negative effects of bullying and peer victimization is overwhelming, there is also research to suggest that there are possible positive outcomes to peer victimization. Researchers have found that victims have higher friendship quality than non victims and those victims who did not have high friendship quality reported higher levels of loneliness, suggesting that friendships could be a protective factor for peer victimization. (Woods, Done & Kalsi, 2009; Bollmer, Milich, Harris & Maras, 2005).

However, majority of the current research seems to focus on the negative effects and there is a lack of understanding about possible positive effects, like for example, resilience. Therefore this research sets out to investigate both positive and negative effects of traditional and Cyberbullying.

Question 7: Describe the methods and procedures of the study

Notes: Attach any relevant material (questionnaires, supporting information etc.) as appendices and summarise them briefly here (e.g. Cognitive Failures Questionnaire: a standardised self-report measure on the frequency of everyday cognitive slips). Do not merely list the names of measures and/or their acronyms. Include information about any interventions, interview schedules, duration, order and frequency of assessments. It should be clear exactly what will happen to participants. If this is a media based study describe and list materials include links and sampling procedure. (500 words)

The study will collect self-report data from children between the ages of 11 and 16 using an online questionnaire. Prior to beginning the study, participants will be presented with the participant information sheet (Appendix A) highlighting the key aims of the study, the requirements of taking part and clear information regarding ethical issues. All participants will be made aware that their involvement in the study is optional, and that they do not have to take part if they do not wish. Data collection will take place in a computer room, with each child having a computer to access the questionnaire via the webpage link that will be provided.

The questionnaire (refer to appendix C) will be comprised of several sections, measuring victimisation, friendship quality, state self-esteem, perceived positive effects of bullying, social anxiety, resilience, and smartphone and social media usage. To measure victimisation, the Self-Report Victimisation Scale (Boulton et al., 2008) will be used, assessing traditional bullying, cyberbullying and accidental bullying. Friendship quality will be measured using the Friendship Quality Scale using only the companionship and conflict subscales (Bukowski, Hoza & Boivin, 1998). Social anxiety will be measured with the social concerns/concentration subscale of the Revised Children's Manifest Anxiety Scale, a widely-used measure of various types of anxiety (RCMAS; Reynolds & Richmond, 1985). State self-esteem will be measured with a six-item measure of overall self-worth in the present moment (Thomaes et al., 2010). Resilience will be measured using a concise version of the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). Finally, select items from the Global Kids Online quantitative toolkit will be used to measure smartphone and social media usage, currently being used to gather cross-cultural data in relation to children and young people's online behaviour (Global Kids Online, 2016). There will also be questions assessing the possible positive effects of bullying. Simple demographic information will also be recorded, including gender, age and region.

The questionnaire (refer to appendix C) has been constructed using online software, Bristol Online Surveys to enable time and cost effective collection of data from a large pool of participants, which can be extracted into Microsoft Excel and SPSS for data analysis. The questionnaire will be made live upon receipt of ethical approval and will remain live until the project ends in December 2017.

Access to computer facilities will be arranged with the schools prior to data collection taking place, ensuring all participants are able to access the questionnaire quickly and easily. The class teacher will be present at all times during the study, removing the need for a DBS certificate. Participants will be given the opportunity to ask any questions, or for clarification of any items within the questionnaire throughout the data collection process. They will also be informed that they do not have to submit their responses should they decide not to. All submitted data will be kept confidentially in password protected documents only accessible to the research team.

Question 8: Has the person carrying out the study had previous experience of the procedures? If not, who will supervise that person?

Notes: Say who will be undertaking the procedures involved and what training and/or experience they have. If supervision is necessary, indicate who will provide it.

All researchers have administered questionnaires or have had experience taking part in questionnaire research as part of their undergraduate research projects.

The project will be supervised by Professor Mike Boulton

Question 9: What ethical issues does this study raise and what measures have been taken to address them?

Notes: Describe any discomfort or inconvenience that participants may experience. Include information about procedures that for some people could be physically stressful or might impact on the safety of participants, e.g. interviews, probing questions, noise levels, visual stimuli, equipment; or that for some people could be psychologically stressful, e.g. mood induction procedures, tasks with high failure rate. Discuss any issues of anonymity and confidentiality as they relate to your study, refer to ethics handbook and guidance notes at the end of the form. If animal based include ethical issues relating to observation.

Prior to completing the online questionnaire, individuals will be informed about the research through reading an information sheet, detailing the nature of the study and the ethical procedures which will be followed. Participants will consent to taking part (having gained consent from the school and /or parents, see questions 12-15) by completing the questionnaire. Identifiable information will not be recorded, and will therefore remain confidential. Participants' responses will remain anonymous.

Data collected will be stored on the Bristol Online Survey database which is password protected, thus only researchers will have access to this. Participants will complete the questionnaire online and so answers will not be seen by their peers, this should help ensure that all answers are completed honestly. Participants will be told through the information sheet that they have the right to withdraw at any point during the questionnaire; they are also told that they do not have to take part at all if they do not wish to, they can simply just leave the room or wait for others to complete the task. However, it will be made clear through the information sheet that once the questionnaire has been completed then participants will no longer be able to have their data set removed as all data will be kept anonymous.

As participants will be told that the nature of the study is to understand more about social relationships and wellbeing of the students, it is believed by the researchers that minimal psychological distress will be endured by participants (see question 14). All questionnaires have been used within prior research (see question 7 and appendix C) and so we have chosen items that measure our variables of interest.

Debrief for the participants will be given as part of the online session, places to receive further support and information will be provided if needed which include meeting with teachers and student support services (see appendix A) and Childline.

Question 10: Who will the participants be?

Notes: Describe the groups of participants that will be recruited and the principal eligibility criteria and ineligibility criteria. Make clear how many participants you plan to recruit into the study in total.

Participants will be pupils in high school between the ages of 11-16. We are aiming to receive approximately 600 completed questionnaires from across 6 schools throughout the North West of England, Wales and Gibraltar.

Question 11: Describe participant recruitment procedures for the study

Notes: Gives details of how potential participants will be identified or recruited. Include all advertising materials (social media messages, posters, emails, letters, verbal script etc.) as appendices and refer to them as appropriate. Describe any screening examinations. If it serves to explain the procedures better, include as an appendix a flow chart and refer to it.

On a convenient basis, contact will be made to head teachers of secondary schools across the North of England, Wales and Gibraltar via email (refer to appendix B). The recruitment of participants will be based on the head teacher's decision to allow us as researchers, to administer questionnaires in their school. The participants will be selected through an opportunity sample whereby those who are present in the class that day and those who choose to take part.

Question 12: Describe the procedures to obtain informed consent

*Notes: Describe when consent will be obtained. If consent is from **adult participants**, give details of who will take consent and how it will be done. If you plan to seek informed consent from **vulnerable groups** (e.g. people with learning difficulties, victims of crime), say how you will ensure that consent is voluntary and fully informed.*

*If you are recruiting **children or young adults** (aged under 18 years) specify the age-range of participants and describe the arrangements for seeking informed consent from a person with parental responsibility. If you intend to provide children under 16 with information about the study and seek agreement, outline how this process will vary according to their age and level of understanding.*

How long will you allow potential participants to decide whether or not to take part? What arrangements have been made for people who might not adequately understand verbal explanations or written information given in English, or who have special communication needs?

If you are not obtaining consent, explain why not.

The participants selected for this investigation will be 11-16 years of age. Prior to the study, informed consent will be given by a person acting in a position of loco parentis, this being the head teachers of each school. It will also be the head teacher's decision if parental consent is necessary. If so, informed consent will be administered to parents via letter or email that the school will produce.

Participants will be invited to open the link and read the information sheet before proceeding with the questionnaire. This highlights that anyone who doesn't not wish to take part can withdraw at any time up until the questionnaire is submitted (Refer to appendix A). Participants will be given the opportunity to ask any questions, however all necessary information will be on the information sheet. The participants will be made aware that by filling out the questionnaire, they are giving consent. They will also be told that if they change their mind once they have started the questionnaire, they will be able to withdraw with no explanation needed.

Question 13: Will consent be written?

Yes/<u>No</u> (delete as appropriate)

*Notes: If **yes**, include a consent form as an appendix. If **no**, describe and justify an alternative procedure (verbal, electronic etc.) in the space below.*

Guidance on how to draft Participant Information sheet and Consent form can be found on PS6001 Moodle space and in the Handbook.

As mentioned in question 12, informed consent from parents/carers/head teachers will be provided by the head teachers, in the form of an official email or letter if required. In addition, by completing the questionnaire the children have also consented to take part.

Question 14: What will participants be told about the study? Will any information on procedures or the purpose of study be withheld?

Notes: Include an Information Sheet that sets out the purpose of the study and what will be required of the participant as appendices and refer to it as appropriate. If any information is to be withheld, justify this decision. More than one Information Sheet may be necessary.

Participants will be told this study will be investigating social relationships in which bullying is a part of. No other information will be withheld from the participants as they will have read an information sheet and will be informed they will be answering a questionnaire for the purpose of research (See Appendix A)

Question 15: Will personally identifiable information be made available beyond the research team (e.g. report to organisation)?

Notes: If so, indicate to whom and describe how confidentiality and anonymity will be maintained at all stages.

No, all information will be kept anonymous. Head teachers will be offered the opportunity to read the final written report, so they are aware of the findings as a whole.

In order to maintain confidentiality and anonymity at all times No personally identifiable information of the participants will be recorded during the research. After completion the data will be stored on the Bristol Online Survey database before being transferred to SPSS, both of which are password protected and only researchers will have access to these.

Question 16: What payments, expenses or other benefits and inducements will participants receive?

Notes: Give details. If it is monetary say how much, how it will be paid and on what basis is the amount determined. Indicate RPS credits.

Participants will not receive payments, expenses or benefits, they will be told they are contributing to our research and that they may find this interesting.

Question 17: At the end of the study, what will participants be told about the investigation?

Notes: Give details of debriefings, ways of alleviating any distress that might be caused by the study and ways of dealing with any clinical problem that may arise relating to the focus of the study.

Debrief for the participants will be given at the end of the questionnaire, informing them of places to receive further support and information (see appendix D). They will be told to contact teachers or student support services should they experience any discomfort. Further support will be recommended such as Childline if participants wish to stay anonymous.

Question 18: What arrangements are there for data security during and after the study?

Notes: Digital data stored on a computer requires compliance with the Data Protection Act; indicate if you have discussed this with your supervisor and describe any special circumstances that have been identified from that discussion. Say who will have access to participants' personal data and for how long personal data will be stored or accessed after the study has ended.

Data collected will be stored on the Bristol Online Survey database which is password protected, thus only researchers will have access to this. Participants will complete the questionnaire online and so answers will not be seen by their peers, this should mean that all answers are completed honestly. The questionnaire will only be live up until the completion of this project in 12/2017.

Signatures of the study team (including date)

Notes: The primary applicant and all co-applicants must sign and date the form. Scanned or electronic signatures are acceptable.

Professor Mike Boulton – 04/04/2017

Hannah Simpson – 04/04/2017

Justine Santos – 04/04/2017

Megan Burns – 04/04/2017

Fern Beth Pritchard – 04/04/2017

Rachel Kirkham – 04/04/2017

Cara Breen – 04/04/2017

ETHICS COMMITTEE DATE: 20/4/17

CHAIRS COMMENTS:

Read and address all reviewers comments

Supervisor Comments

ACCEPTABLE a Action: You may now commence with data collection subject to approval from any relevant external agencies.

DATA COLLECTION IS NOT PERMISSABLE UNDER THESE CONDITIONS

ACCEPTABLE SUBJECT TO SUBMISSION OF AMENDMENT FORM

Acceptable subject to conditions listed by chair. Discuss conditions highlighted with supervisor and submit ethics application amendment form direct to office.

a Acceptable subject to conditions listed by chair: Submit ethics application amendment form direct to office.

ACCEPTABLE SUBJECT TO CONDITIONS LISTED BY CHAIR:

a Action: Resubmit application for full review ensuring you have completed section B

REVISE AND RESUBMIT:

Action: Resubmit application for full review ensuring you have completed section B

SIGNATURE• .....

Ethical Amendment Form

University of **Chester**

UNIVERSITY OF CHESTER, DEPARTMENT OF PSYCHOLOGY
APPLICATION FOR ETHICAL APPROVAL AMENDMENT FORM

A) Applicant and personnel

Applicant: Mike Boulton plus MSc students R. Kirkham, C Breen, M. Burns, B. Pritchard, J. Santos, H. SimPson

Project title: Social relationships and wellbeing in school students

Applicant status: Staff Go to Section B PGR Undergraduate ☒ Postgraduate taught

Supervisor: Mike Boulton?

B) Declaration

1. I have submitted an application for ethical approval to the Department of Psychology Ethics Committee and I am required to make the following amendments to my application.
List the recommendations of the committee. Reviewer 1 1. Dates online survey is open.

RESPONSE. This online survey will be located on BOS. For the students collecting data, it will be open until the end of the school year in July (dates vary from school to school) so that they can collect data in time for their dissertations. To allow for me to collect more data to support a possible publication, the survey will remain open until December 2017. We have also decided to widen the age range of the children we are testing to include children age 10. 2. Wording on Information Sheet. RESPONSE. We have changed the wording to, "We do not think the questions will upset you 3. Sources of support. RESPONSE. I have removed my email address in the list of sources of support as it is entirely inappropriate to provide this to school pupils. It is important to note that it is the school's responsibility, as part of its legal duty of care, to ensure that all pupils are aware of sources of support should they feel they are in danger or are distressed. All researchers can do is to remind pupils of some of those sources of support. It is not appropriate for us to provide this information to pupils individually. I have never done this in any previous study that I can recall, and have never been asked to do so by any member of school staff The statement that informs participants that a report will be made available has been deleted. 4. Data collection in Gibraltar. RESPONSE. Data will only be collected in the UK. 5 t How participants can withdraw. RESPONSE: The information Sheet now invites participants who want to withdraw as follows, "If you do not want to take part or want to stop part way through, please simply close the survey/browser and read quietly or get on with some work". 6. Data storage. RESPONSE. All data at all times will be stored on password protected computers AND data files will have no personal information (names) as none will be collected. 7. Permission form schools. RESPONSE. I have reminded students that they must submit confirmation letter/email granting access from school to Ethics Committee prior to data collection. Reviewer 26 8. Presence of researchers. RESPONSE. Students will be there when data are being collected. 9. Student individual projects. RESPONSE. I have addressed these requirements by outlining specifically what variables I wish to measure, these are: victimization, friendship quality, self-esteem, social anxiety and the possible positive effects. 10. Distributing data to students.

RESPONSE. As in previous years, I will produce a unique data set for each student to analyze by randomly deleting a small number of data points from the overall data file.

MP

Mrs Packham <mrs.packham@st-thomasmore.cheshire.sch.uk>
Mon 05/06, 22:46

Hi there Cara, it's Katherine Packham. Lovely to hear from you and we are delighted you are well and are taking part in this project for your university course.
We will be delighted to help you with your project, however, the questions are slightly sensitive. I would like to be in the room with the pupils when they complete the questionnaire online to make it clear to them that if they are writing answers that may need adult attention, then I will be there to help and support them further. If any answers come out that suggest a child is low or being bullied, or physically harmed, then I would like to know and I can try to pinpoint this through the pupils we invite. I would ask between 20-25 pupils to take part in a computer room one form time. Would you like to come and be there and talk to the pupils about your research. I will use pupils from year 7 to year 10.
Let me know if you can come along and we can put a date in the calendar.
Thanks
Katherine Packham

Mrs K Packham
Assistant Headteacher - Pupil Progress
St Thomas More Catholic High School
Dane Bank Ave
Crewe
CW2 8AE
01270 568014

Mrs Packham
Assistant Head Teacher for Pastoral Care and Safeguarding
01270568014
01270650860
mrs.packham@st-thomasmore.cheshire.sch.uk

St Thomas More Catholic High School - E-Mail Disclaimer

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St Thomas More Catholic High School

Describe how you have addressed these requirements.

2. ☒ I have submitted an application for ethical approval to the Department of Psychology Ethics Committee that was approved on 24/04/2017

I wish the committee to consider the following amendments I would like to make to the research plan (attach the original approved application form)

☐ I am a member of staff. **Signed:** _____ **Date:** 11/05/2017
Print the amendment form on BLUE PAPER and submit to the Dept. Office
☒ I am an UG/PGT/PGR student. I have discussed any amendments with my project supervisor.
Print the amendment form on BLUE PAPER and submit to the Dept. Office

Signed: _____ **(Lead Applicant) Date:** 24/05/2017

Supervisor comments:
I have discussed the recommendations of the committee with the applicant and I am satisfied they have met the stated requirements./I support the amendments to the research plan. (delete as appropriate)
☐ Yes Sign and date the form ☐ No Comments: Click here to enter text.

Signed: _____ **(Supervisor) Date:** 25.5.17 Click here to enter a date.

COMMITTEE COMMENTS:

☑ ACCEPTABLE: You may now commence with data collection subject to approval from any relevant external agencies.

DATA COLLECTION IS NOT PERMISSABLE UNDER THESE CONDITIONS

☐ ACCEPTABLE SUBJECT TO SUBMISSION OF FURTHER AMENDMENT FORM.

☐ Acceptable subject to conditions listed by chair. Discuss conditions highlighted with supervisor and submit ethics application amendment form direct to office.

☐ Acceptable subject to conditions listed by chair: Submit ethics application amendment form direct to office.

Signed: Maria Shaffer **Date:** 23/10/17 or date.

Appendix B: Questionnaire

University of Chester

Young People's Social Relationships

Page1: Part One

1. About You

	11	12	13	14	15	16
Age	○	○	○	○	○	○

1.a.

	Male	Female	Prefer Not to Say
Gender	○	○	○

1.b.

	North-West England	Wales	Gibralter	Prefer not to say
Location	○	○	○	○

2. Self-Report Victimisation Scale

	Never	Not Very Often	Sometimes	Lots of Times
How often in the last year has another child hit and kicked you to make you feel bad?	○	○	○	○
How often in the last year has another child called you nasty names to make you feel bad?	○	○	○	○
How often in the last year has another child left you out of games and things to make you feel bad?	○	○	○	○

How	often in another child in a make you	the been text feel	last mean or bad?	year to online	has you to					
How	often in another child and you didn't really to you?	the hit felt mean	last or bad but to	year kicked be	has you they nasty					
How	often in another child and you didn't really to you?	the called felt bad mean	last you to	year nasty but be	has names they nasty					
How	often in another child games and bad but to be	the left things and they nasty	last you and didn't to	year out you really	has of felt mean you?					
How	often in another child in a you felt really mean you?	the been text bad to	last mean or but be	year to online they nasty	has you and didn't to					

3. Friendship Quality Scale

						Never	Not Very Often	Sometimes	Lots of Times
My	friend and free	I time together	spend	all	our				

My friend thinks of fun things for us to do together				
My friend and I go to each other's houses after school and on weekends				
Sometimes my friend and I just sit around and talk about things like school and things we like				
I can get into fights with my friend				
My friend can bug me or annoy me even though I ask him/her not to				
My friend and I can argue a lot				
My friend and I disagree about many things				

4. State Self-Esteem

	Never	Not very often	Sometimes	Lots of Times
I am satisfied with myself right now				
I feel down on myself right now				
I am proud of myself right now				
I am dissatisfied with myself right now				
I feel good about who I am right now				
I am disappointed in myself right now				

5. Perceived Positive Effects

	How much do you agree with these statements?			
	Not at all	Only a bit	Quite a lot	Very much
Being bullied might help somebody learn that it was not their fault?	○	○	○	○
Being bullied might help somebody learn how to not feel bad about themselves?	○	○	○	○
Being bullied might help somebody become a stronger person who can deal better with bad things?	○	○	○	○
Being bullied can never help a person in any way?	○	○	○	○
Being bullied does not help a person learn anything useful about themselves?	○	○	○	○

6. Social Anxiety

	Totally true for me	quite a lot true for me	only a bit true for me	not at all true for me
Others seem to do things easier than I can	○	○	○	○
I feel that others do not like the way I do things	○	○	○	○
I feel alone even when there are people with me	○	○	○	○
Other people are happier than I am	○	○	○	○
I feel someone will tell me I do things the wrong way	○	○	○	○

It is hard for me to keep my mind on schoolwork	○	○	○	○
A lot of people are against me	○	○	○	○

7. Smartphone & Social Media usage

	Yes	No
Do you personally own a smartphone (e.g, iPhone or Windows Phone)?	○	○

7.a.

	Little or no time	About 1 hour	About 2 hours	About 3 hours	About 4 hours	5 or more hours	I don't have a smartphone
About how long do you spend using your smartphone on an ordinary day?	○	○	○	○	○	○	○

7.b.

	Never	Not Very Often	Sometimes	Lots of Times	I don't have a smartphone
Do you access social media apps/websites on your smartphone (e.g, Facebook, Instagram, Snapchat, WhatsApp, or Twitter)?	○	○	○	○	○

In the past year has anyone you or in a nasty way through social media apps/websites on your smartphone?	○	○	○	○	○
In the past year have you treated anyone in a hurtful or nasty way through social media apps/websites on your smartphone?	○	○	○	○	○

8. The Connor- Davidson Resilience Scale

	How much do you agree with the following statements?				
	Not true at all	Rarely true	True sometimes	True Often	True all the time
I am able to adapt to change	○	○	○	○	○
I can deal with whatever comes	○	○	○	○	○
I try to see the humorous side of problems	○	○	○	○	○
Coping with stress can strengthen me	○	○	○	○	○
I tend to bounce back after illness or hardship	○	○	○	○	○
I can achieve goals despite obstacles	○	○	○	○	○
I can stay focused under pressure	○	○	○	○	○

I	am not easily discouraged by failure	○	○	○	○	○

I	think of myself as a strong person	○	○	○	○	○
I	can handle unpleasant feelings	○	○	○	○	○

Appendix C: Email to schools

Dear [insert head teachers' full name]

I am a current student at the University of Chester, studying towards an MSc qualification in Family and Child Psychology. As part of my course, I am required to complete a research project, in which I intend to look at the social relationships and wellbeing of young people between the ages of 11-16. I am just enquiring whether there may be a possibility for me to collect this data from your students using a simple only questionnaire, taking around 15-20 minutes to complete.

The research will be fully ethically approved through the University, and will not record any personal information about students/the school. All questionnaire responses will be anonymous. A copy of the questionnaire can be provided for yourself to view should you wish.

I hope to hear from you soon,

Many thanks

Cara Breen

University of Chester

Appendix D: Participant Information Sheet

We would like to invite you to take part in a research project. We think you will be able to help us by increasing our awareness about social relationships, bullying and wellbeing of students within schools. We want to know about what you would do in certain situations, when interacting with your peers. We will be collecting this information in class. You will have the chance to complete a 20-minute questionnaire on the computer. There is no need to copy anyone else because this is NOT a test and there are no right or wrong answers. Therefore, try to make sure that other people cannot see your answers.

We do not think the questions are distressing, but if you do feel affected by any of the questions, you might want to tell a teacher or other trusted adult or contact your student support service. Or ChildLine (call 0800 1111 or visit: www.childline.org.uk where you can speak to someone helpful).

You do not have to take part if you do not wish to, and you can stop at any time without giving us a reason. If you think you don't want to answer some questions that is fine too. Remember, this is NOT a test. It is up to you how many questions you want to answer. If you do complete the questionnaire, then your answers will become part of our study because nobody will know who has answered what questions.

If you have any questions or concerns please ask your teacher now.

Appendix E: Debrief Sheet

Our aim is to discover more information about social relationships and wellbeing of young people within schools. We would like to start by thanking you for taking part in our research by completing the questionnaire.

Again we would like to reiterate

- All of your information will remain anonymous and confidential and will not be seen by anyone else

- If you would like to read our finished research articles, then you can send a request by contacting the researchers via email (this will be once work has been graded)

- If you have felt any kind of discomfort when completing this questionnaire, then there are people available to meet and talk with you if you so wish; details are as follows:

Your own teachers and school support services

Dissertation supervisor:

m.boulton@chester.ac.uk M.Boulton

Appendix F: SPSS outputs

Social anxiety Cronbach Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.849	.851	7

Positive friendships Cronbach Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
.735	4

Friendship problem Cronbach Alpha

Reliability Statistics

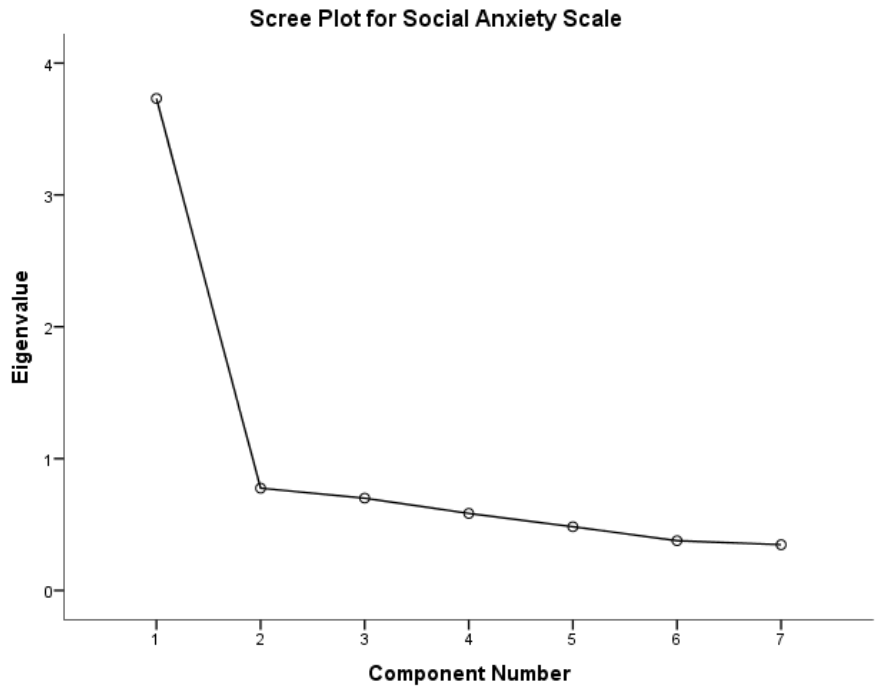
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.802	.802	4

Self-esteem Cronbach Alpha

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.871	6

PCA for social anxiety scale



Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.732	53.313	53.313	3.732	53.313	53.313
2	.776	11.081	64.394			
3	.700	10.001	74.395			
4	.584	8.348	82.743			
5	.483	6.903	89.646			
6	.378	5.396	95.042			
7	.347	4.958	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

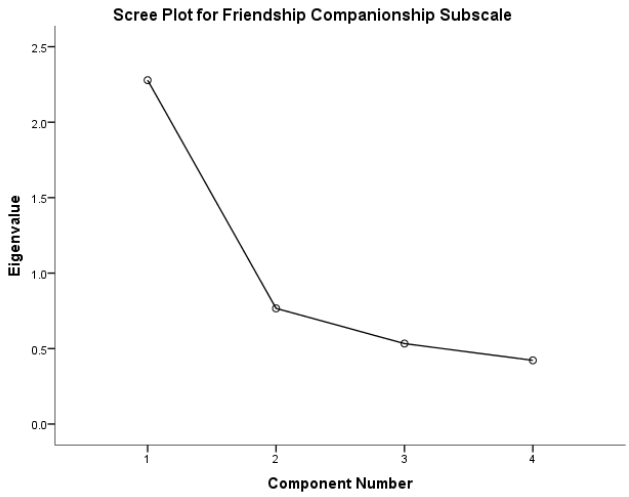
	Component
	1
Others seem to do things easier than I can	.609
I feel that others do not like the way I do things	.773
I feel alone even when there are people with me	.802

Other people are happier than I am	.759
I feel someone will tell me I do things the wrong way	.764
It is hard for me to keep my mind on schoolwork	.577
A lot of people are against me	.792

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

PCA for friendship companionship subscale



Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.278	56.962	56.962	2.278	56.962	56.962
2	.766	19.160	76.122			
3	.533	13.329	89.450			
4	.422	10.550	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

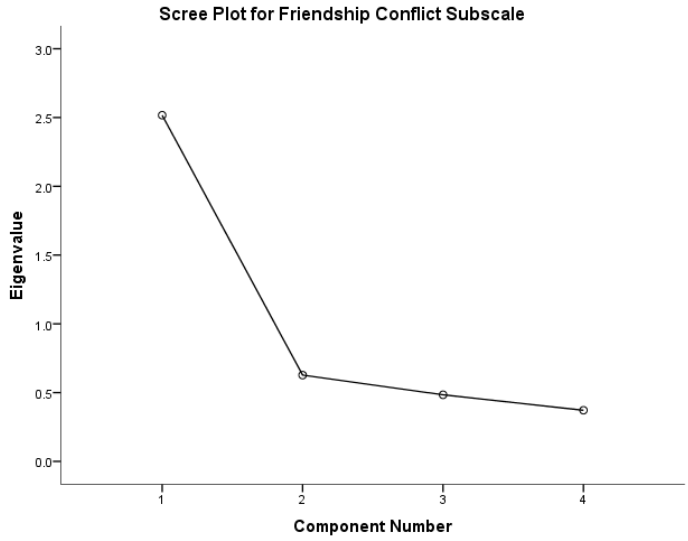
	Component
	1

My friend and I spend all our free time together	.808
My friend thinks of fun things for us to do together	.819
My friend and I go to each other's houses after school and on weekends	.760
Sometimes my friend and I just sit around and talk about things like school and things we like	.615

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

PCA for Friendship Conflict



Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.517	62.919	62.919	2.517	62.919	62.919
2	.627	15.686	78.605			
3	.484	12.101	90.706			
4	.372	9.294	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I can get into fights with my friend	.753
My friend can bug me or annoy me even though I ask him/her not to	.798
My friend and I can argue a lot	.852
My friend and I disagree about many things	.766

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

PCA for self-esteem scale

Component Matrix[a]

	Component 1	2
I am satisfied with myself right now	.775	.409
I am proud of myself right now	.751	.438
I feel good about who I am right now	.805	.400
Q4_2R	.772	-.437
Q4_4R	.808	-.384
Q4_6R	.764	-.418

Extraction Method: Principal Component Analysis.

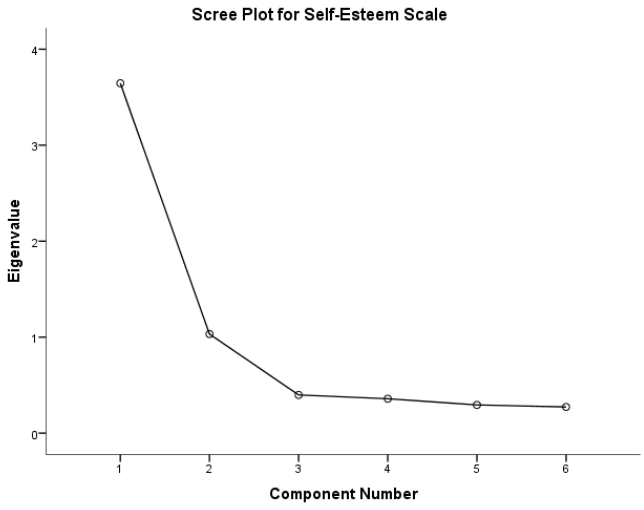
a. 2 components extracted.

Component Matrix[a]

	Component	
	1	2
I am satisfied with myself right now	.775	.409
I am proud of myself right now	.751	.438
I feel good about who I am right now	.805	.400
Q4_2R	.772	-.437
Q4_4R	.808	-.384
Q4_6R	.764	-.418

Extraction Method: Principal Component Analysis.

a. 2 components extracted.



Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.645	60.751	60.751	3.645	60.751	60.751

2	1.032	17.204	77.955	1.032	17.204	77.955
3	.398	6.631	84.586			
4	.358	5.968	90.554			
5	.294	4.898	95.452			
6	.273	4.548	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
I am satisfied with myself right now	.775	.409
I am proud of myself right now	.751	.438
I feel good about who I am right now	.805	.400
Q4_2R	.772	-.437
Q4_4R	.808	-.384
Q4_6R	.764	-.418

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Social anxiety, high-qualityfriendships, low-qualityfriendships, self-esteem means

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
COMPUTE FriendPosAv=(Q3_1_a + Q3_2_a + Q3_3_a + Q3_4_a) / 4	641	.00	3.00	2.0242	.66424
COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	636	.00	3.00	1.0947	.73747
COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	619	.00	3.00	1.9677	.71879

COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	598	.00	3.00	1.8254	.72016
Valid N (listwise)	560				

Victimisation and Gender Mean

Report

COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Gender	Mean	N	Std. Deviation
Male	.7673	274	.64898
Female	.8305	320	.73560
Total	.8013	594	.69712

Multiple regression, social anxiety, friendship problems and self-esteem as predictors of victimisation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.622[a]	.388	.384	.57327	.388	115.565	3	548	.000

a. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.936	3	37.979	115.565	.000[b]
	Residual	180.092	548	.329		
	Total	294.029	551			

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.843	.103		17.862	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.131	.036	.133	3.648	.000
	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.428	.044	-.421	-9.660	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.192	.044	-.189	-4.397	.000

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Hierarchical regression, social anxiety as a unique predictor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change
1	.532[a]	.283	.281	.61960	.283	108.448	2	549	.000
2	.622[b]	.388	.384	.57327	.104	93.324	1	548	.000

a. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4

b. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83.267	2	41.633	108.448	.000[b]
	Residual	210.762	549	.384		

	Total	294.029	551			
2	Regression	113.936	3	37.979	115.565	.000[c]
	Residual	180.092	548	.329		
	Total	294.029	551			

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4

c. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.439	.102		14.112	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.206	.038	.210	5.473	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.429	.039	-.424	-11.042	.000
2	(Constant)	1.843	.103		17.862	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.131	.036	.133	3.648	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.192	.044	-.189	-4.397	.000
	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.428	.044	-.421	-9.660	.000

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.421[b]	-9.660	.000	-.381	.588

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors in the Model: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4

Hierarchical Regression, friendship problems as a unique predictor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.610[a]	.373	.370	.57966	.373	163.037	2	549	.000
2	.622[b]	.388	.384	.57327	.015	13.310	1	548	.000

a. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

b. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.562	2	54.781	163.037	.000[b]
	Residual	184.466	549	.336		
	Total	294.029	551			
2	Regression	113.936	3	37.979	115.565	.000[c]
	Residual	180.092	548	.329		
	Total	294.029	551			

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

c. Predictors: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7, COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.098	.077		27.338	.000
	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.464	.044	-.456	-10.606	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.215	.044	-.212	-4.930	.000
2	(Constant)	1.843	.103		17.862	.000
	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.428	.044	-.421	-9.660	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.192	.044	-.189	-4.397	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.131	.036	.133	3.648	.000

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.133[b]	3.648	.000	.154	.844

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors in the Model: (Constant), COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

Hierarchical Regression, self-esteem as a unique predictor

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.605[a]	.366	.364	.58276	.366	158.388	2	549	.000
2	.622[b]	.388	.384	.57327	.022	19.337	1	548	.000

a. Predictors: (Constant), COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

b. Predictors: (Constant), COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7, COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	107.581	2	53.791	158.388	.000[b]
	Residual	186.447	549	.340		
	Total	294.029	551			
2	Regression	113.936	3	37.979	115.565	.000[c]
	Residual	180.092	548	.329		
	Total	294.029	551			

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors: (Constant), COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

c. Predictors: (Constant), COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7, COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.644	.094		17.442	.000

	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.539	.037	-.529	-14.471	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.154	.036	.156	4.267	.000
2	(Constant)	1.843	.103		17.862	.000
	COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7	-.428	.044	-.421	-9.660	.000
	COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4	.131	.036	.133	3.648	.000
	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.192	.044	-.189	-4.397	.000

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6	-.189[b]	-4.397	.000	-.185	.605

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors in the Model: (Constant), COMPUTE FrendProbAv=(Q3_5_a + Q3_6_a + Q3_7_a + Q3_8_a) / 4, COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

Appendix : Simple regression, victimisation as a predictor of self esteem

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.481[a]	.231	.230	.63106	.231	182.233	1	605	.000

a. Predictors: (Constant), COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72.572	1	72.572	182.233	.000[b]
	Residual	240.935	605	.398		
	Total	313.508	606			

a. Dependent Variable: COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6

b. Predictors: (Constant), COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.359	.039		60.922	.000
	COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4	-.476	.035	-.481	-13.499	.000

a. Dependent Variable: COMPUTE SEav=(Q4_1_a + Q4_3_a + Q4_5_a + Q4_2R + Q4_4R + Q4_6R) / 6

Simple regression, victimisation as a predictor of social anxiety

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2	Sig. F Change
1	.594[a]	.352	.351	.57866	.352	317.300	1	583	.000

a. Predictors: (Constant), COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.246	1	106.246	317.300	.000[b]
	Residual	195.214	583	.335		
	Total	301.460	584			

a. Dependent Variable: COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

b. Predictors: (Constant), COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.320	.036		63.986	.000
	COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4	-.587	.033	-.594	-17.813	.000

a. Dependent Variable: COMPUTE SocialAnxAv=(Q6_1_a + Q6_2_a + Q6_3_a + Q6_4_a + Q6_5_a + Q6_6_a + Q6_7_a) / 7

Simple regression, victimisation as a predictor of high friendship quality

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.055[a]	.003	.001	.72375	.003	1.902	1	626	.168

a. Predictors: (Constant), COMPUTE FriendPosAv=(Q3_1_a + Q3_2_a + Q3_3_a + Q3_4_a) / 4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.996	1	.996	1.902	.168[b]
	Residual	327.911	626	.524		
	Total	328.907	627			

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

b. Predictors: (Constant), COMPUTE FriendPosAv=(Q3_1_a + Q3_2_a + Q3_3_a + Q3_4_a) / 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.947	.093		10.227	.000
	COMPUTE FriendPosAv=(Q3_1_a + Q3_2_a + Q3_3_a + Q3_4_a) / 4	-.060	.043	-.055	-1.379	.168

a. Dependent Variable: COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4

Gender and overall victimisation t test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4	Male	274	.7673	.64898	.03921
	Female	320	.8305	.73560	.04112

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
COMPUTE VicAv=(Q2_1_a + Q2_2_a + Q2_3_a + Q2_4_a) / 4	Equal variances assumed	7.054	.008	-1.100	592	.272	-.06313	.05737	-.17580	.04954
	Equal variances not assumed			-1.111	591.463	.267	-.06313	.05682	-.17472	.04845

Specific sub-types of bullying t test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
How often in the last year has another child hit and kicked you to make you feel bad?	Male	281	.77	.877	.052
	Female	327	.50	.783	.043
How often in the last year has another child left you out of games and things to make you feel bad?	Male	278	.64	.853	.051
	Female	326	.79	.945	.052
How often in the last year has another child been mean to you in a text or online to make you feel bad?	Male	279	.55	.811	.049
	Female	322	.88	1.007	.056
How often in the last year has another child called you nasty names to make you feel bad?	Male	279	1.15	.931	.056
	Female	326	1.19	1.062	.059

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
How often in the last year has another child hit and kicked you to make you feel bad?	Equal variances assumed	4.709	.030	4.021	606	.000	.271	.067	.138	.403
	Equal variances not assumed			3.986	566.500	.000	.271	.068	.137	.404
How often in the last year has another child left you out of games and things to make you feel bad?	Equal variances assumed	3.683	.055	-1.957	602	.051	-.144	.074	-.289	.001
	Equal variances not assumed			-1.973	600.027	.049	-.144	.073	-.288	-.001
How often in the last year has another child been mean to you in a text or online to make you feel bad?	Equal variances assumed	11.578	.001	-4.379	599	.000	-.330	.075	-.478	-.182
	Equal variances not assumed			-4.446	595.928	.000	-.330	.074	-.476	-.184
How often in the last year has another child called you nasty names to make you feel bad?	Equal variances assumed	13.009	.000	-.528	603	.598	-.043	.082	-.204	.117
	Equal variances not assumed			-.534	602.631	.594	-.043	.081	-.202	.116

Average for gender and social media usage

Report

Do you access social media apps/websites on your smartphone (e.g, Facebook, Instagram, Snapchat, WhatsApp, or Twitter)?

Gender	Mean	N	Std. Deviation
Male	2.28	267	1.108
Female	2.52	321	.905
Total	2.41	588	1.008

Cronbach alpha for friendship quality scale

Reliability Statistics

Cronbach's Alpha	N of Items
.677	8